
Measurement Protocol

Measurement Object	LTE Band 13_10M_QPSK_1RB_0Offset_EVS NB 24.4kbps_Ch23230_8N
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Project	4O3003
Report Generation Date	24/11/18 14:32
Responsible Person	AC01-KS

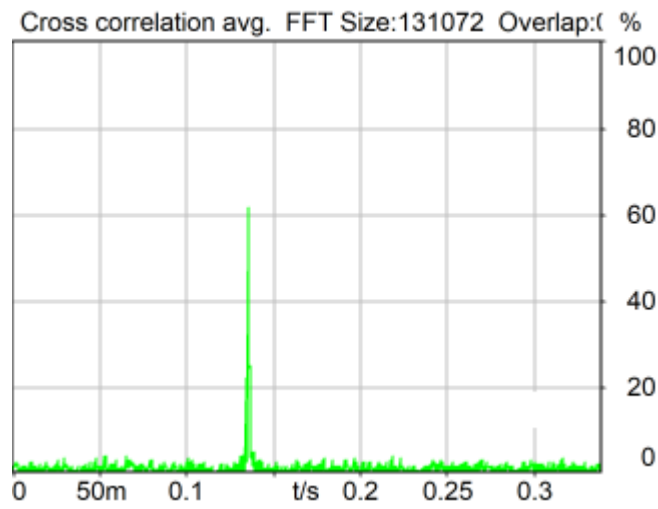
Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	135.7	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	95.78	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.88	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	33.00	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.74	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.52	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.18	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	28.95	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	44.69	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.59	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	25.74	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	22.94	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 3150Hz)	22.94	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.3 Frequency Response 8N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 611.7 Hz	1.96	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N
5.3 Frequency Response 8N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 576.7 Hz	2.11	LTE Band 13_10M_QPSK_1RB_0Offset_EV S NB 24.4kbps_Ch23230_8N

Overall Receive Delay NB	5
5.1a Receive Volume Control Performance 8N NB	6
5.2 RCV Distortion and Noise - 400 Hz NB	7
5.2 RCV Distortion and Noise - 500 Hz NB	8
5.2 RCV Distortion and Noise - 630 Hz NB	9
5.2 RCV Distortion and Noise - 800 Hz NB	10
5.2 RCV Distortion and Noise - 1000 Hz NB	11
5.2 RCV Distortion and Noise - 1250 Hz NB	12
5.2 RCV Distortion and Noise - 1600 Hz NB	13
5.2 RCV Distortion and Noise - 2000 Hz NB	14
5.2 RCV Distortion and Noise - 2500 Hz NB	15
5.2 RCV Distortion and Noise - 3150 Hz NB	16
Report - Receive Distortion and Noise (Conversational Gain)	17
5.3 Frequency Response 8N FF HANB	18
5.3 Frequency Response 8N DF HANB	19

Overall Receive Delay NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ Preparation - Delay measurement

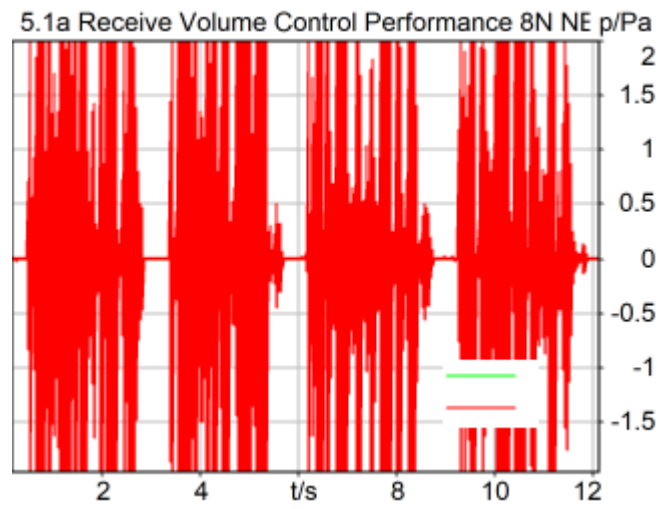


Delay (Cross): 135.7 ms

24/11/18 14:18 ACQUA 5.1.200

5.1a Receive Volume Control Performance 8N NB

TIA-5050 (2018-01) \ Measurements \ Narrowband



Speech Level RCV: 95.78 dB[SPL], Act.: 80.10% Ok

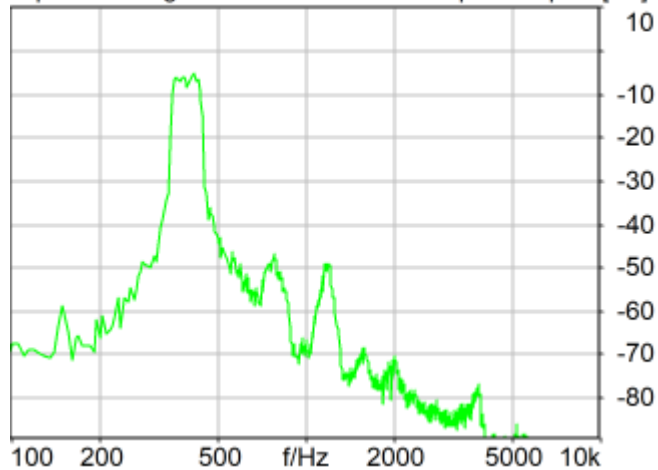
Ok

24/11/18 14:19 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



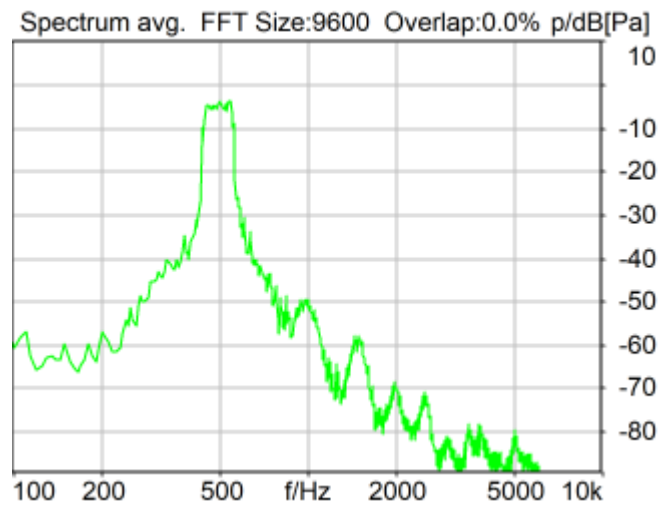
Distortion (Noise) RCV (packed): 36.88 dB (1.43%) Ok

Ok

24/11/18 14:19 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



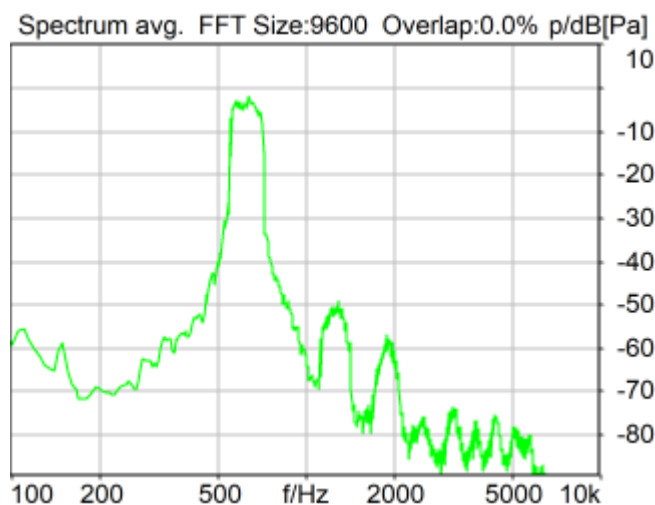
Distortion (Noise) RCV (packed): 33.00 dB (2.24%) Ok

Ok

24/11/18 14:19 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



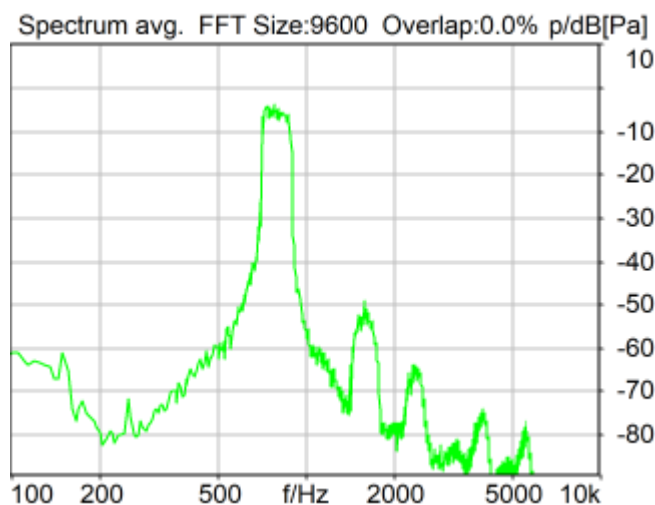
Distortion (Noise) RCV (packed): 38.74 dB (1.16%) Ok

Ok

24/11/18 14:20 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



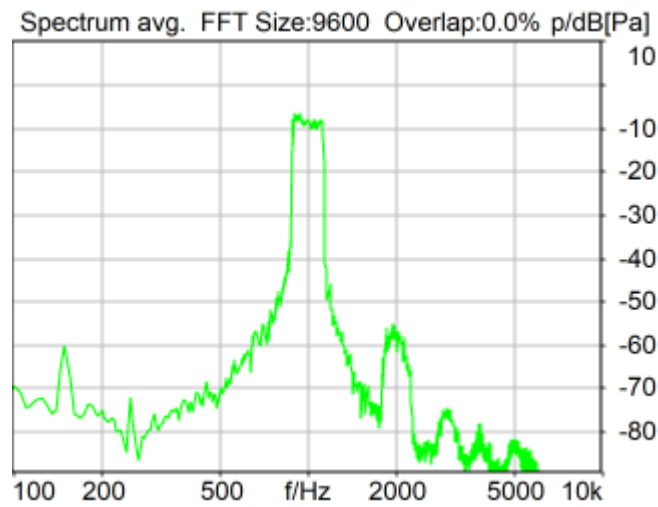
Distortion (Noise) RCV (packed): 40.52 dB (0.94%) Ok

Ok

24/11/18 14:20 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



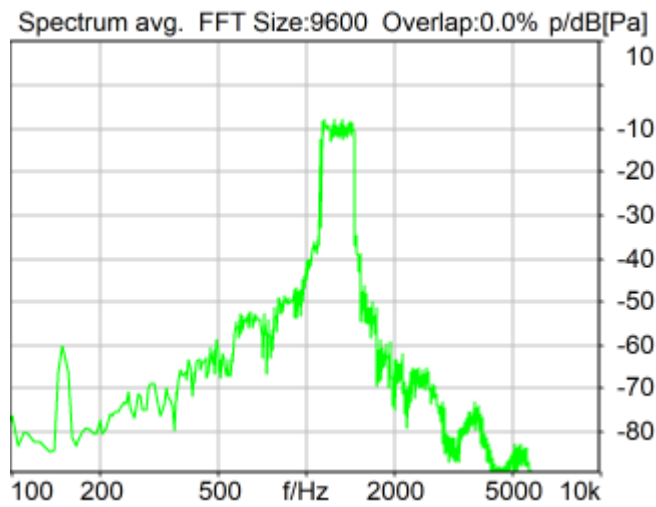
Distortion (Noise) RCV (packed): 40.18 dB (0.98%) Ok

Ok

24/11/18 14:21 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



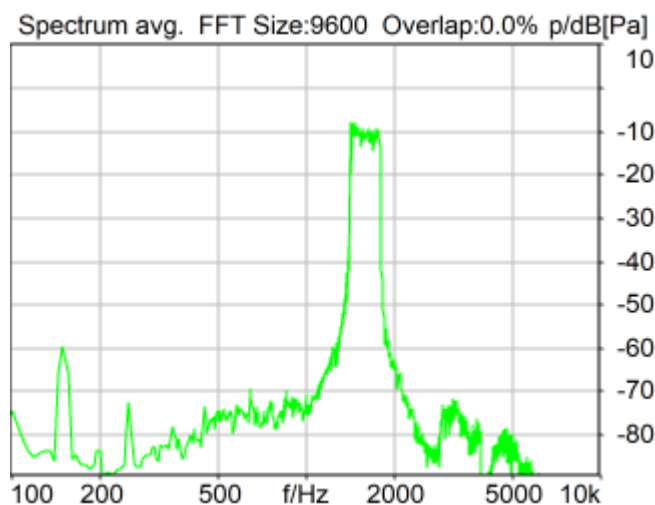
Distortion (Noise) RCV (packed): 28.95 dB (3.57%) Ok

Ok

24/11/18 14:21 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



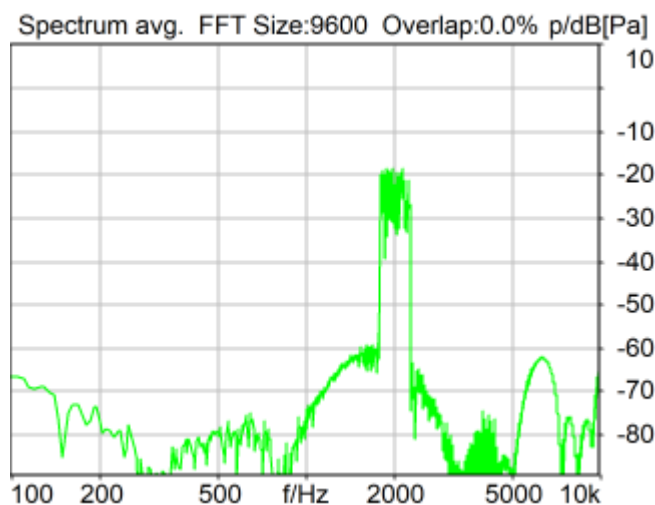
Distortion (Noise) RCV (packed): 44.69 dB (0.58%) Ok

Ok

24/11/18 14:22 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



Distortion (Noise) RCV (packed): 32.59 dB (2.35%) Ok

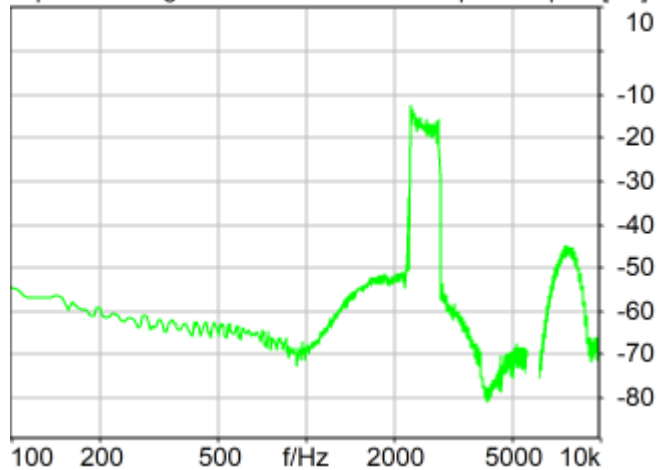
Ok

24/11/18 14:22 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



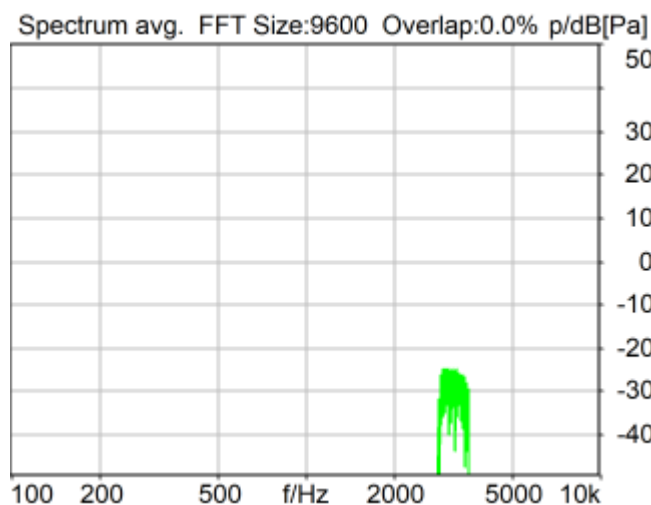
Distortion (Noise) RCV (packed): 25.74 dB (5.16%) Ok

Ok

24/11/18 14:23 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



Distortion (Noise) RCV (packed): 22.94 dB (7.13%) Ok

Ok

24/11/18 14:23 ACQUA 5.1.200

Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Region	Frequency	SDNR
1	400Hz	36.88 dB
2	500Hz	33.00 dB
3	630Hz	38.74 dB
4	800Hz	40.52 dB
5	1000Hz	40.18 dB
6	1250Hz	28.95 dB
7	1600Hz	44.69 dB
8	2000Hz	32.59 dB
9	2500Hz	25.74 dB
10	3150Hz	22.94 dB

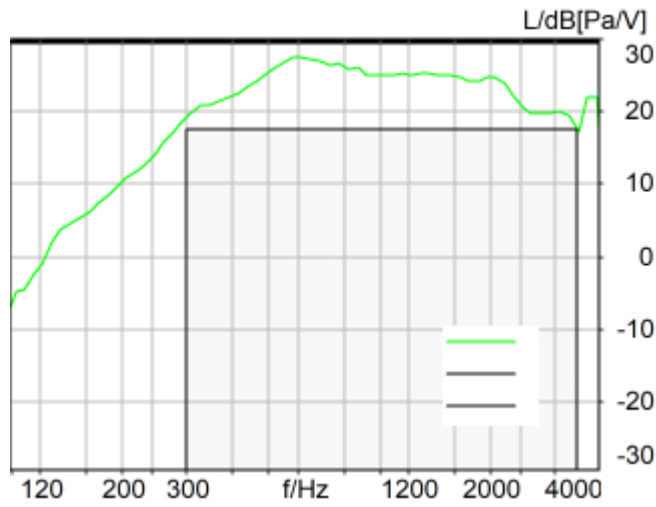
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.94dB at 3150Hz.

24/11/18 14:30 ACQUA

5.3 Frequency Response 8N FF HANB

TIA-5050 (2018-01) \ Measurements \ Narrowband



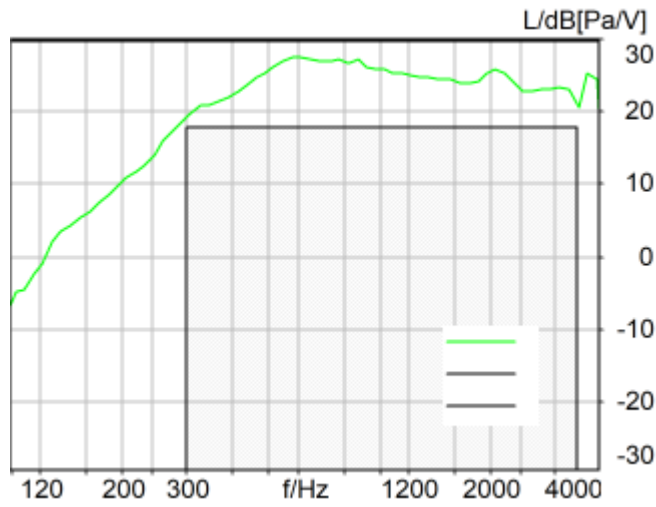
Absolute minimal distance
1.96 dB at 611.7 Hz Ok

Ok

24/11/18 14:30 ACQUA 5.1.200

5.3 Frequency Response 8N DF HANB

TIA-5050 (2018-01) \ Measurements \ Narrowband



Absolute minimal distance
2.11 dB at 576.7 Hz Ok

Ok

24/11/18 14:30 ACQUA 5.1.200

Measurement Protocol

Measurement Object	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
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Project	4O3003
Report Generation Date	24/11/18 20:06
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	273.8	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	88.19	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	20.30	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	23.49	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.40	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.05	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.35	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.11	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.26	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.51	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	36.21	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.87	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.12	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	43.46	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.89	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.13	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	20.30	FR1

ACQUA Report
WB 128kbps_Ch518598_2N

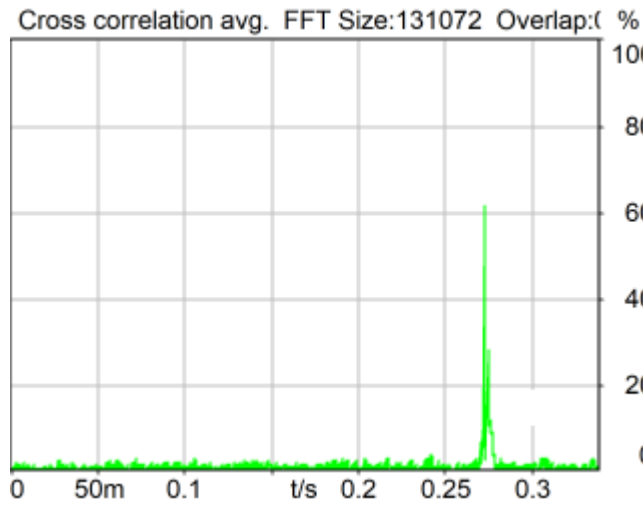
Title: FR1 n41_100M_QPSK_1RB_1Offset_EVS

and Noise (Conversational Gain)		(occured at 250Hz)		n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 576.7 Hz	0.85	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 4119.5 Hz	0.06	FR1 n41_100M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch518598_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV Distortion and Noise - 800 Hz WB	13
5.2 RCV Distortion and Noise - 1000 Hz WB	14
5.2 RCV Distortion and Noise - 1250 Hz WB	15
5.2 RCV Distortion and Noise - 1600 Hz WB	16
5.2 RCV Distortion and Noise - 2000 Hz WB	17
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

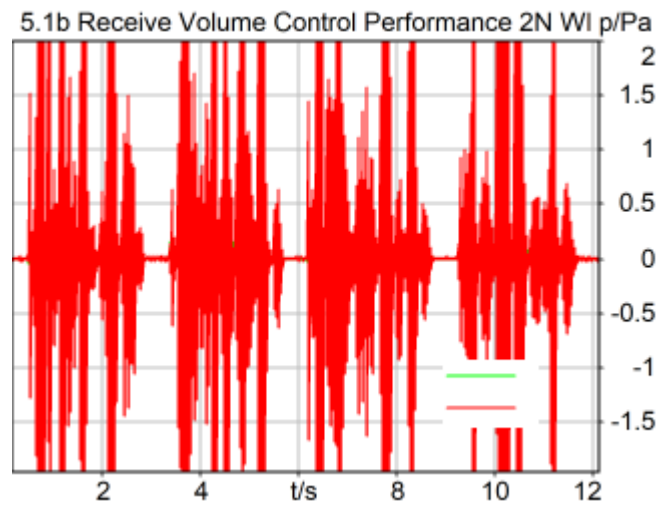


Delay (Cross): 273.8 ms

24/11/18 19:56 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband



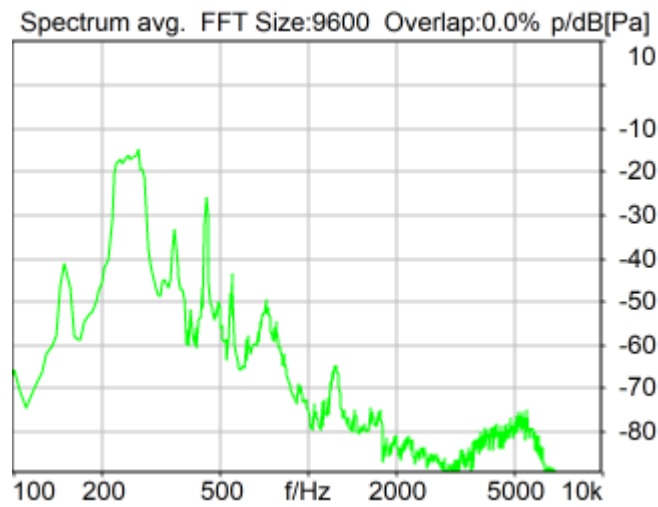
Speech Level RCV: 88.19 dB[SPL], Act.: 81.48% Ok

Ok

24/11/18 19:56 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



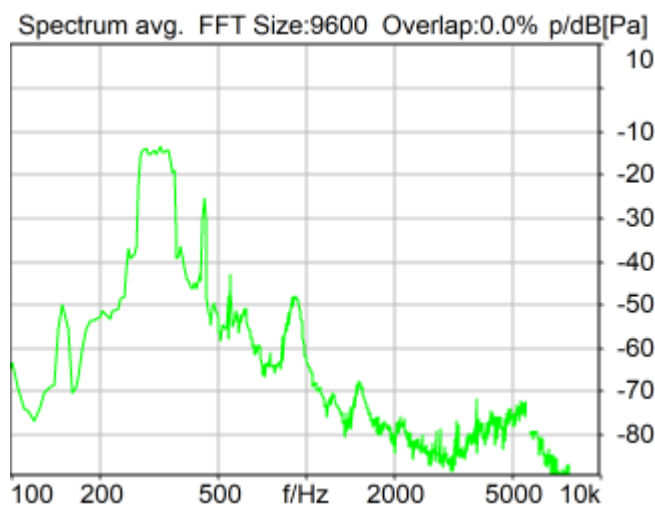
Distortion (Noise) RCV (packed): 20.30 dB (9.66%) Ok

Ok

24/11/18 19:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 315 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



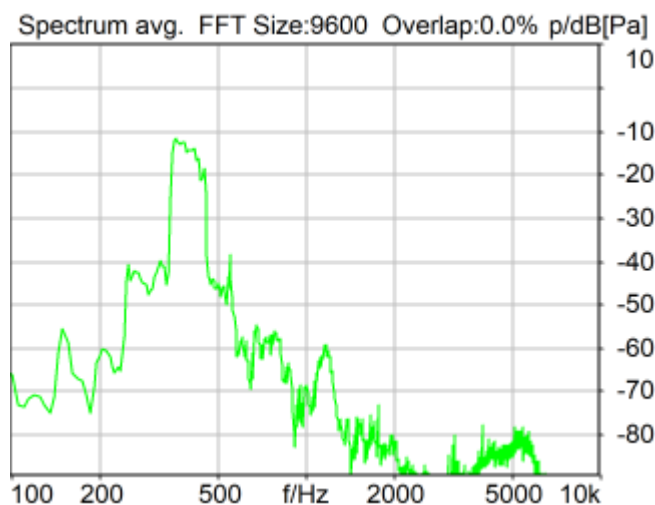
Distortion (Noise) RCV (packed): 23.49 dB (6.69%) Ok

Ok

24/11/18 19:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



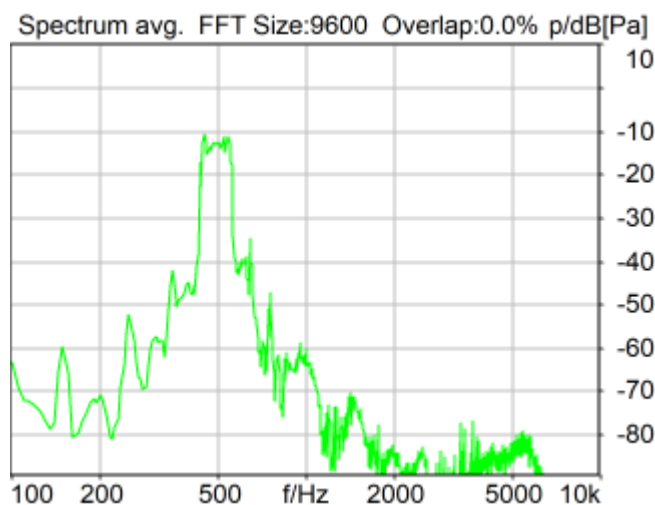
Distortion (Noise) RCV (packed): 32.40 dB (2.40%) Ok

Ok

24/11/18 19:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



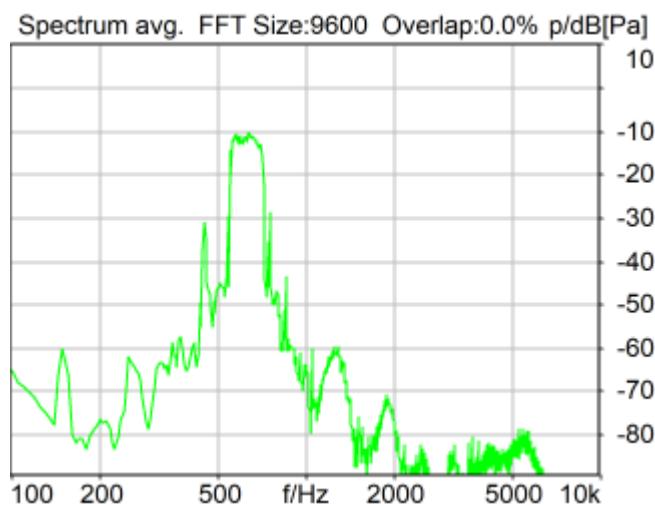
Distortion (Noise) RCV (packed): 31.05 dB (2.80%) Ok

Ok

24/11/18 19:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



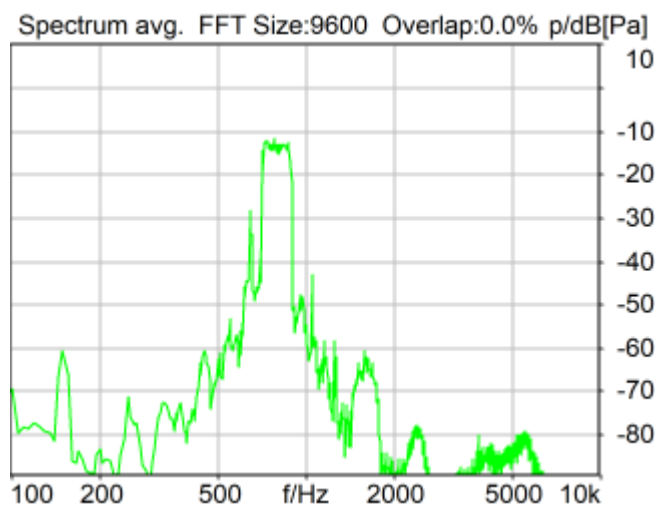
Distortion (Noise) RCV (packed): 29.35 dB (3.41%) Ok

Ok

24/11/18 19:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



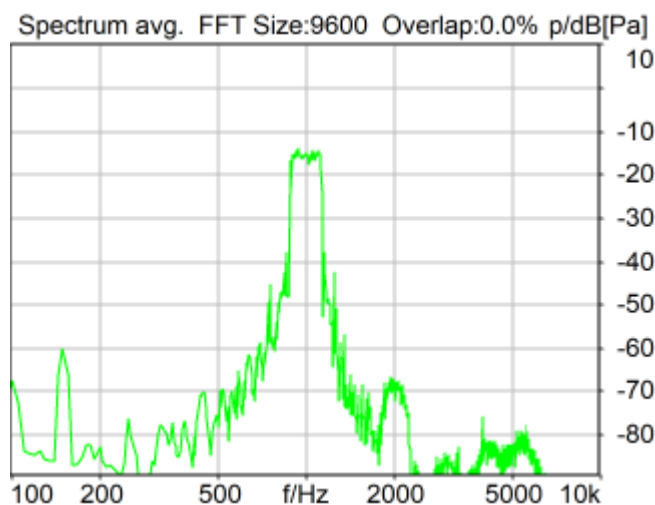
Distortion (Noise) RCV (packed): 29.11 dB (3.50%) Ok

Ok

24/11/18 19:59 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 34.26 dB (1.94%) Ok

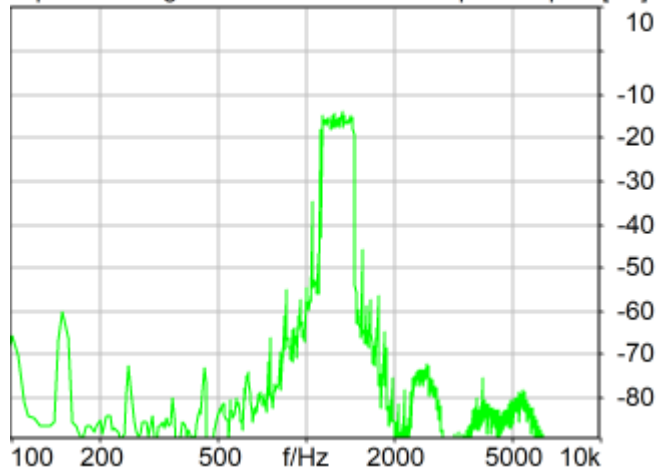
Ok

24/11/18 19:59 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 30.51 dB (2.98%) Ok

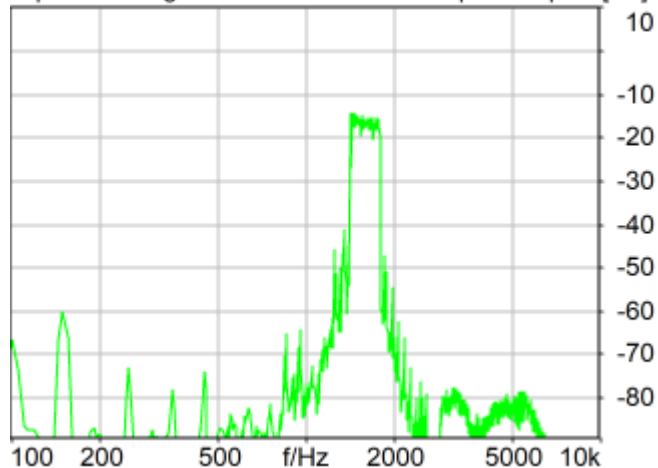
Ok

24/11/18 20:00 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



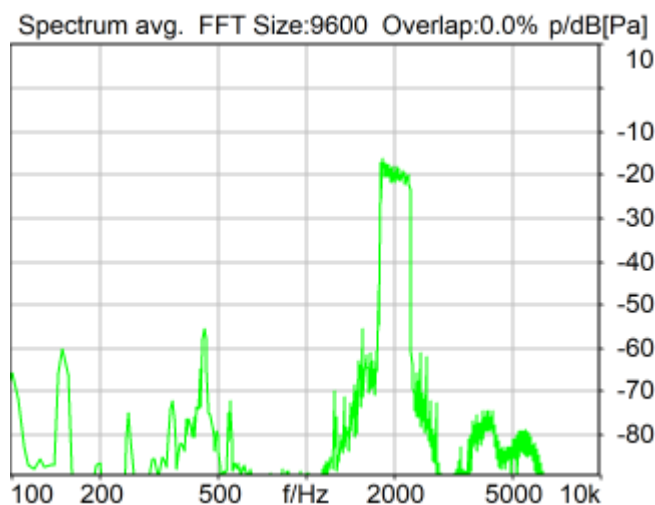
Distortion (Noise) RCV (packed): 36.21 dB (1.55%) Ok

Ok

24/11/18 20:00 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 43.87 dB (0.64%) Ok

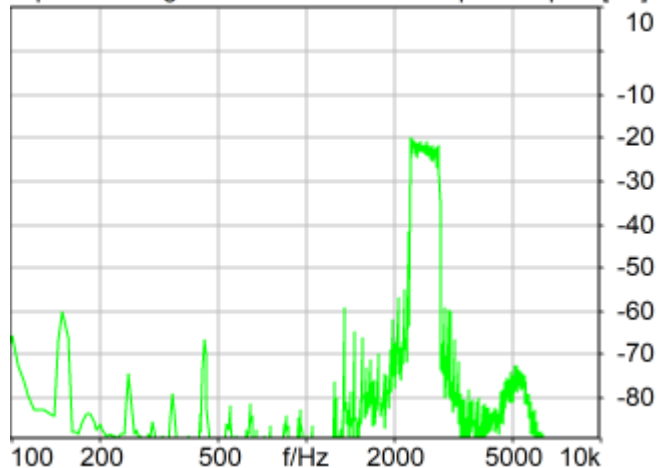
Ok

24/11/18 20:00 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 42.12 dB (0.78%) Ok

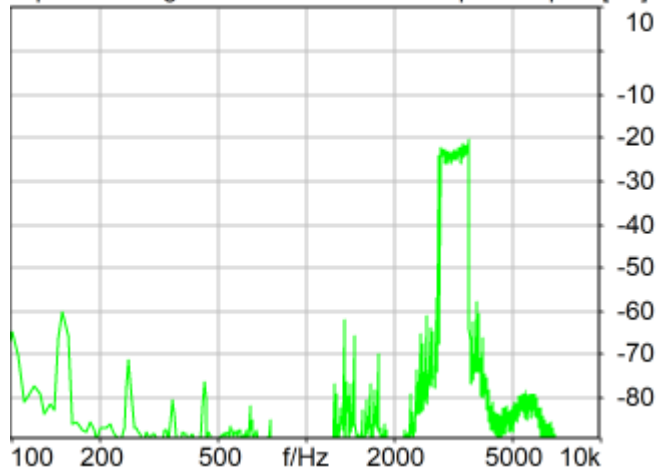
Ok

24/11/18 20:01 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



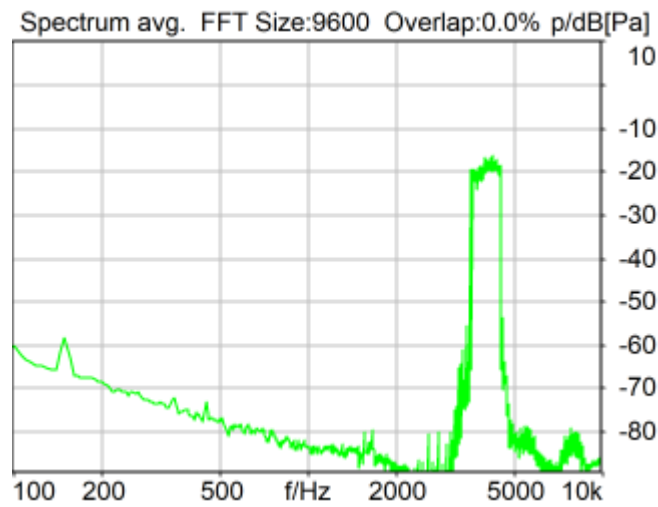
Distortion (Noise) RCV (packed): 43.46 dB (0.67%) Ok

Ok

24/11/18 20:01 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 4000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 45.89 dB (0.51%) Ok

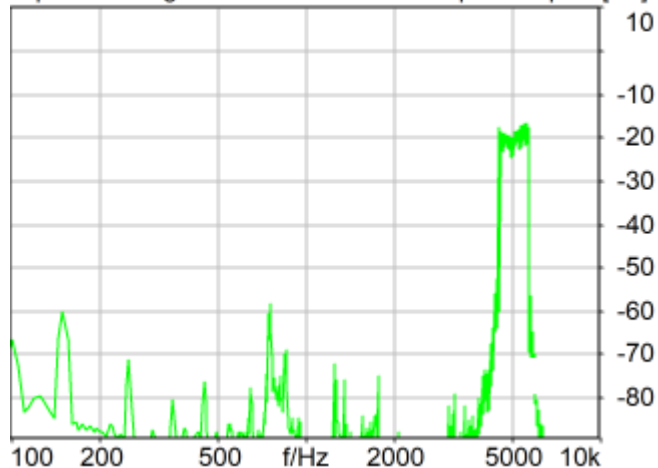
Ok

24/11/18 20:02 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 5000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 45.13 dB (0.55%) Ok

Ok

24/11/18 20:02 ACQUA 5.1.200

Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Region	Frequency	SDNR
1	250Hz	20.30 dB
2	315Hz	23.49 dB
3	400Hz	32.40 dB
4	500Hz	31.05 dB
5	630Hz	29.35 dB
6	800Hz	29.11 dB
7	1000Hz	34.26 dB
8	1250Hz	30.51 dB
9	1600Hz	36.21 dB
10	2000Hz	43.87 dB
11	2500Hz	42.12 dB
12	3150Hz	43.46 dB
13	4000Hz	45.89 dB
14	5000Hz	45.13 dB

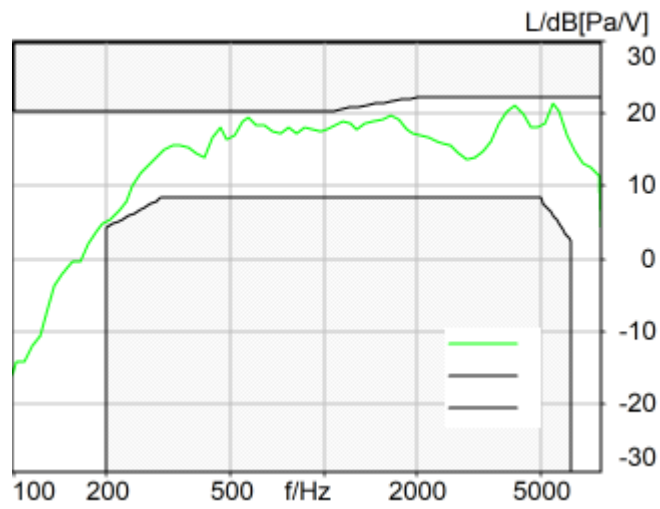
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.30dB at 250Hz.

24/11/18 20:04 ACQUA

5.3 Frequency Response 2N FF

TIA-5050 (2018-01) \ Measurements \ Wideband



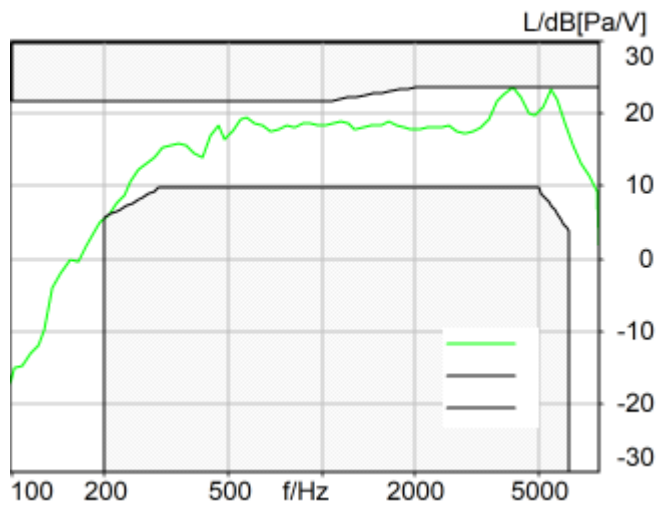
Absolute minimal distance
0.85 dB at 576.7 Hz Ok

Ok

24/11/18 20:05 ACQUA 5.1.200

5.3 Frequency Response 2N DF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance
0.06 dB at 4119.5 Hz Ok

Ok

24/11/18 20:05 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS NB 24.4kbps_Ch157_8N
--------------------	---

Project	4O3003
Report Generation Date	24/11/21 9:57
Responsible Person	AC01-KS

Status Overview

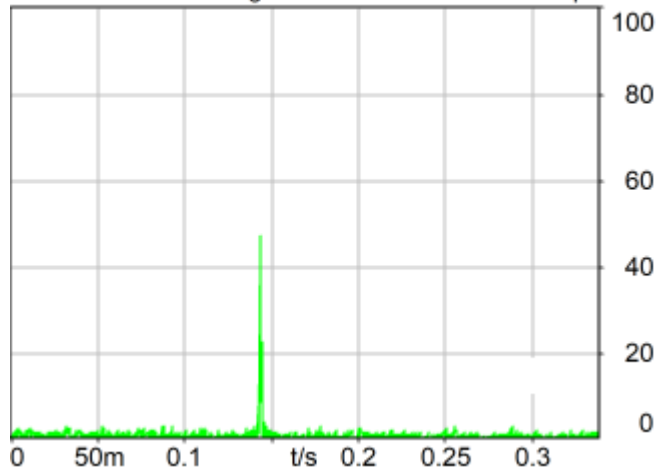
SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay NB	Done	Delay (Cross) [ms]	144.1	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.1a Receive Volume Control Performance 8N NB	Ok	Speech Level [dB[SPL]]	96.64	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 400 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	35.70	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	36.83	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 630 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	38.63	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 800 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.36	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	41.30	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1250 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	30.18	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 1600 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	40.62	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 2000 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	32.54	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 2500 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	20.85	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.2 RCV Distortion and Noise - 3150 Hz NB	Ok	Distortion (Noise) [dB], 0.0 dB	21.05	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 2500Hz)	20.85	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.3 Frequency Response 8N FF HANB	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	1.06	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N
5.3 Frequency Response 8N DF HANB	Ok	Min. dist. to tolerance scheme [dB], 305.9 Hz	1.08	WLAN5GHz_802.11a 6Mbps_EVS NB 24. 4kbps_Ch157_8N

Overall Receive Delay NB	5
5.1a Receive Volume Control Performance 8N NB	6
5.2 RCV Distortion and Noise - 400 Hz NB	7
5.2 RCV Distortion and Noise - 500 Hz NB	8
5.2 RCV Distortion and Noise - 630 Hz NB	9
5.2 RCV Distortion and Noise - 800 Hz NB	10
5.2 RCV Distortion and Noise - 1000 Hz NB	11
5.2 RCV Distortion and Noise - 1250 Hz NB	12
5.2 RCV Distortion and Noise - 1600 Hz NB	13
5.2 RCV Distortion and Noise - 2000 Hz NB	14
5.2 RCV Distortion and Noise - 2500 Hz NB	15
5.2 RCV Distortion and Noise - 3150 Hz NB	16
Report - Receive Distortion and Noise (Conversational Gain)	17
5.3 Frequency Response 8N FF HANB	18
5.3 Frequency Response 8N DF HANB	19

Overall Receive Delay NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ Preparation - Delay measurement

Cross correlation avg. FFT Size:131072 Overlap:(%

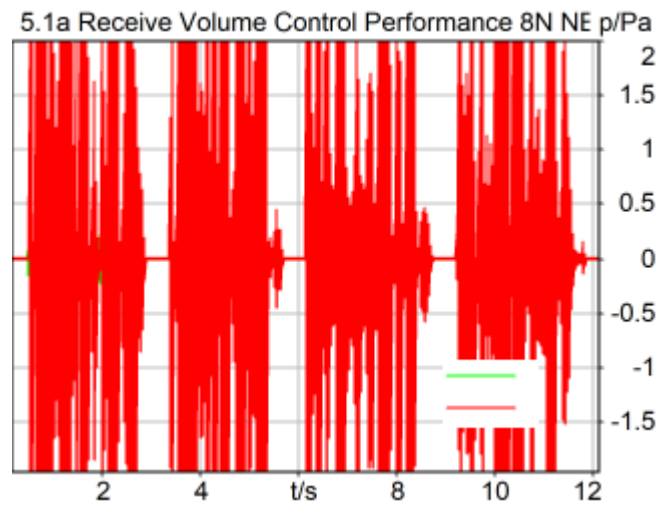


Delay (Cross): 144.1 ms

24/11/21 9:44 ACQUA 5.1.200

5.1a Receive Volume Control Performance 8N NB

TIA-5050 (2018-01) \ Measurements \ Narrowband



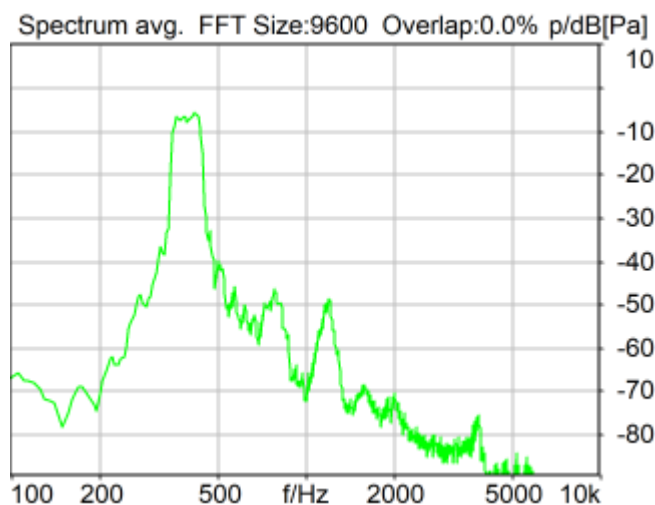
Speech Level RCV: 96.64 dB[SPL], Act.: 80.24% Ok

Ok

24/11/21 9:45 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



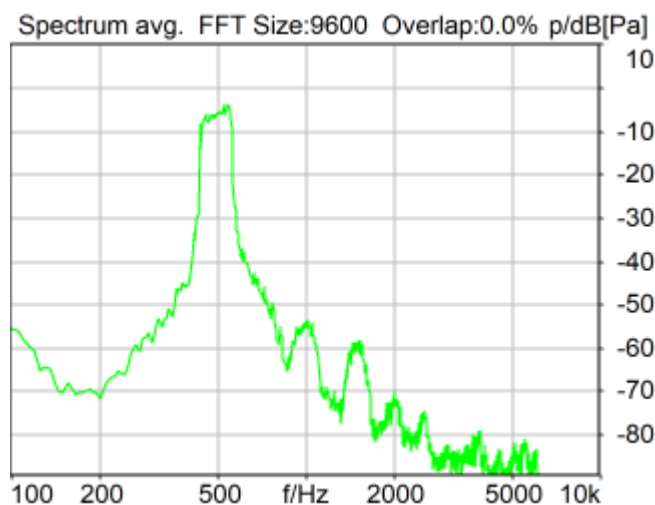
Distortion (Noise) RCV (packed): 35.70 dB (1.64%) Ok

Ok

24/11/21 9:45 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



Distortion (Noise) RCV (packed): 36.83 dB (1.44%) Ok

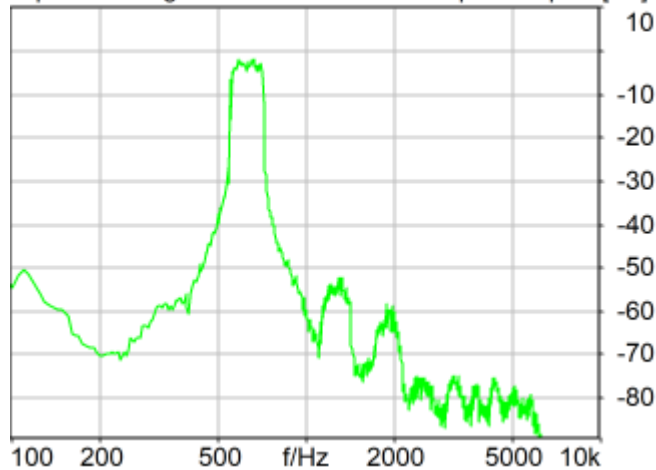
Ok

24/11/21 9:46 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 38.63 dB (1.17%) Ok

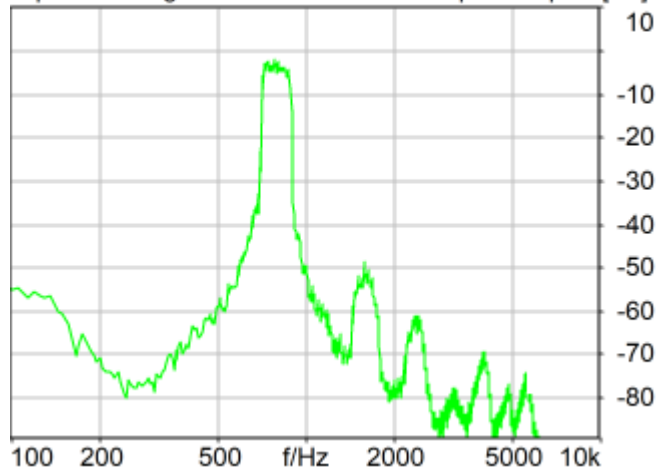
Ok

24/11/21 9:46 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 40.36 dB (0.96%) Ok

Ok

24/11/21 9:47 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



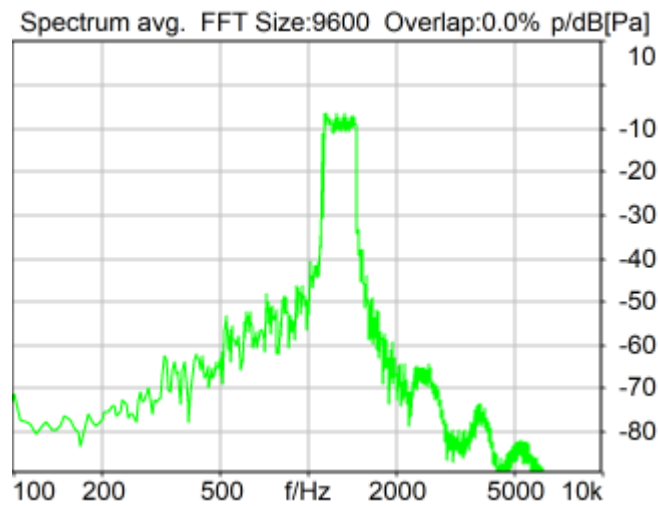
Distortion (Noise) RCV (packed): 41.30 dB (0.86%) Ok

Ok

24/11/21 9:47 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



Distortion (Noise) RCV (packed): 30.18 dB (3.10%) Ok

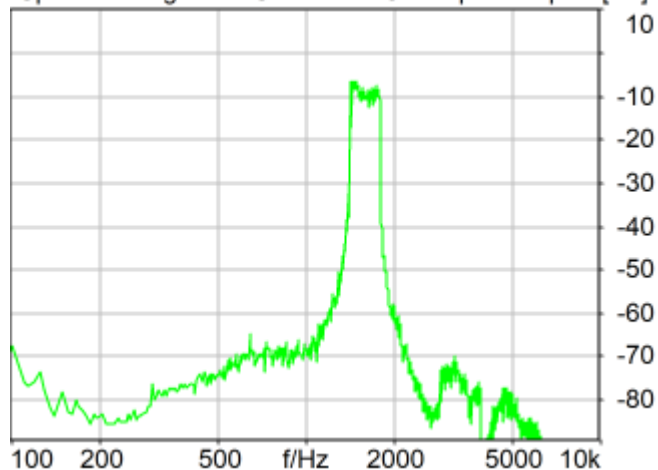
Ok

24/11/21 9:48 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



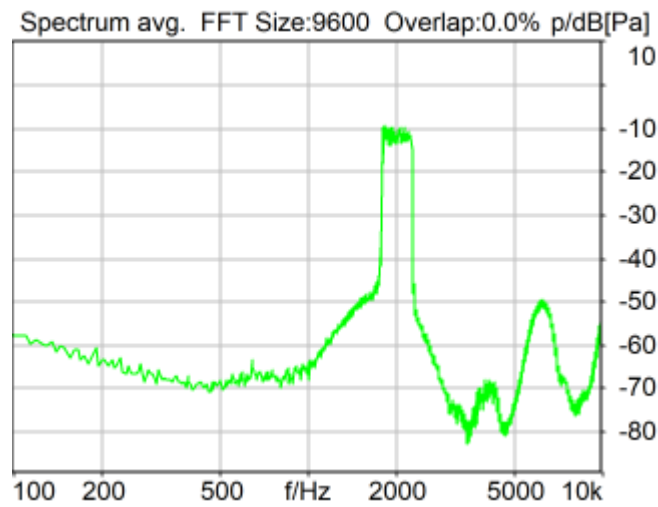
Distortion (Noise) RCV (packed): 40.62 dB (0.93%) Ok

Ok

24/11/21 9:48 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



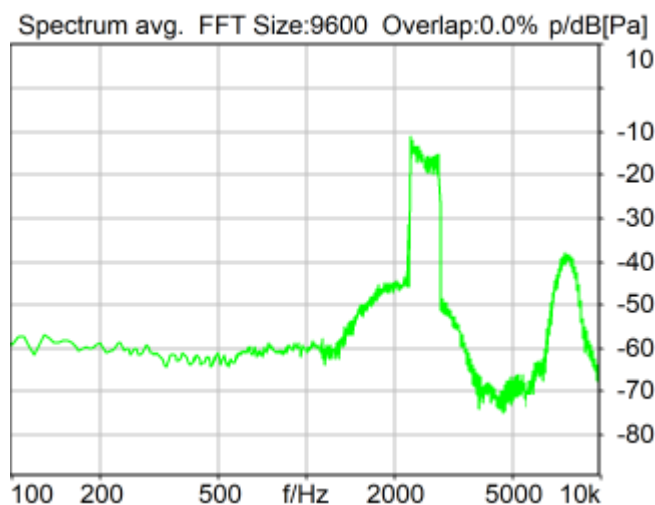
Distortion (Noise) RCV (packed): 32.54 dB (2.36%) Ok

Ok

24/11/21 9:48 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



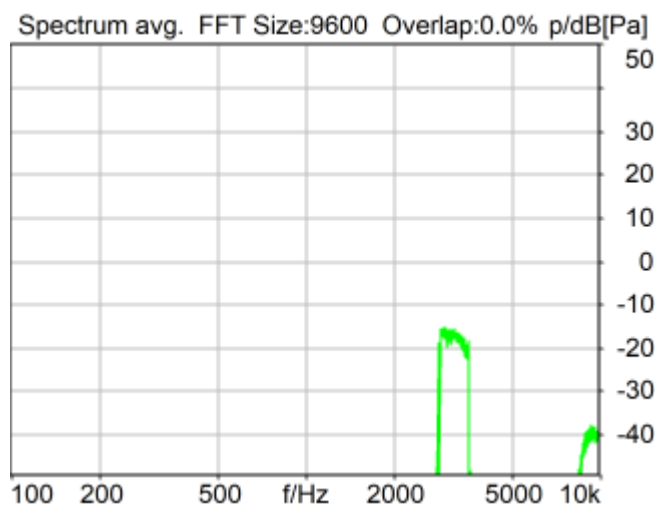
Distortion (Noise) RCV (packed): 20.85 dB (9.07%) Ok

Ok

24/11/21 9:49 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz NB

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N



Distortion (Noise) RCV (packed): 21.05 dB (8.86%) Ok

Ok

24/11/21 9:49 ACQUA 5.1.200

Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Narrowband \ 5.2 Receive Distortion and Noise 8N

Region	Frequency	SDNR
1	400Hz	35.70 dB
2	500Hz	36.83 dB
3	630Hz	38.63 dB
4	800Hz	40.36 dB
5	1000Hz	41.30 dB
6	1250Hz	30.18 dB
7	1600Hz	40.62 dB
8	2000Hz	32.54 dB
9	2500Hz	20.85 dB
10	3150Hz	21.05 dB

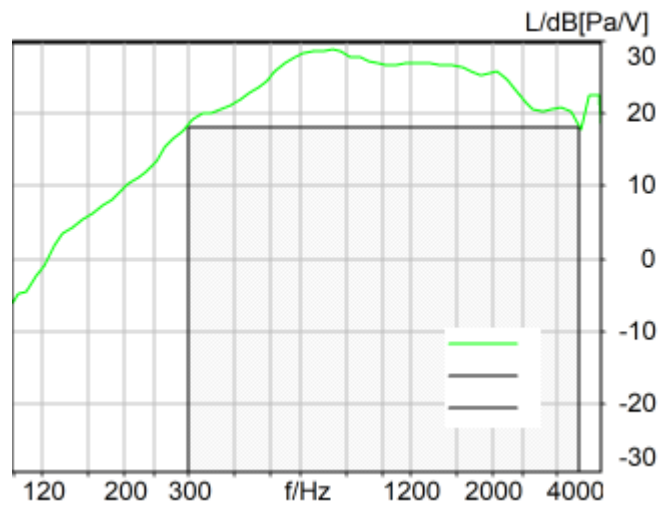
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 20.85dB at 2500Hz.

24/11/21 9:53 ACQUA

5.3 Frequency Response 8N FF HANB

TIA-5050 (2018-01) \ Measurements \ Narrowband



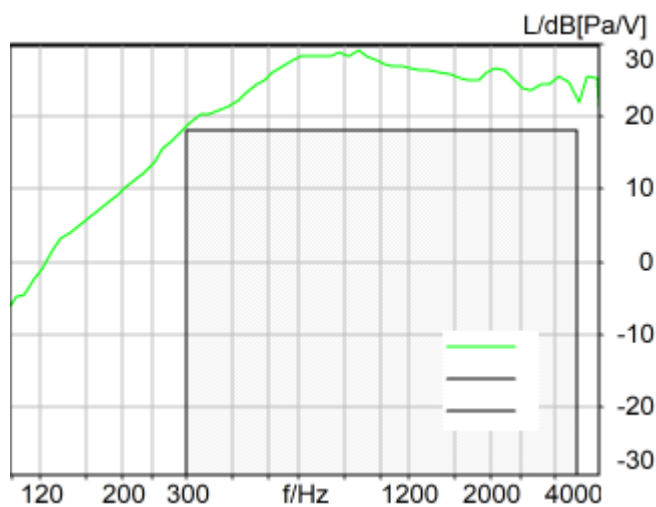
Absolute minimal distance
1.06 dB at 305.9 Hz Ok

Ok

24/11/21 9:53 ACQUA 5.1.200

5.3 Frequency Response 8N DF HANB

TIA-5050 (2018-01) \ Measurements \ Narrowband



Absolute minimal distance
1.08 dB at 305.9 Hz Ok

Ok

24/11/21 9:54 ACQUA 5.1.200

Measurement Protocol

Measurement Object	GSM850_GSM Voice_AMR WB 6.60kbps_Ch189_2N
--------------------	---

Project	4O3003
Report Generation Date	24/11/19 15:12
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	215.4	GSM850_GSM Voice_AMR WB 6.60kbps_Ch189_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	89.17	GSM850_GSM Voice_AMR WB 6.60kbps_Ch189_2N

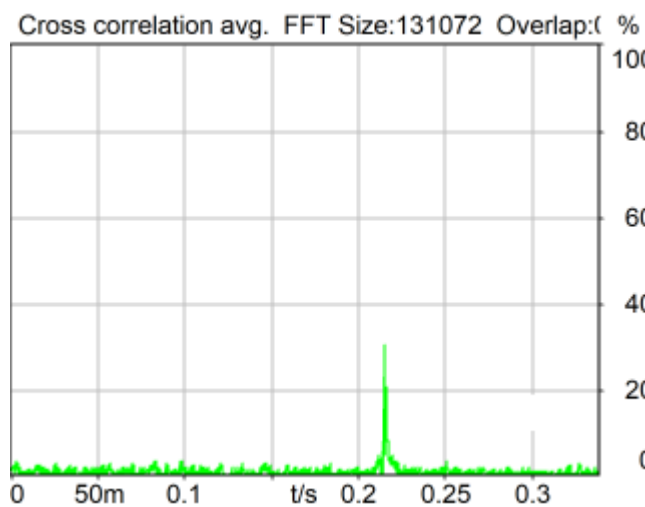
ACQUA Report
60kbps_Ch189_2N

Title: GSM850_GSM Voice_AMR WB 6.

Overall Receive Delay WB	5
5.1b Receive Volume Control Performance 2N WB	6

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

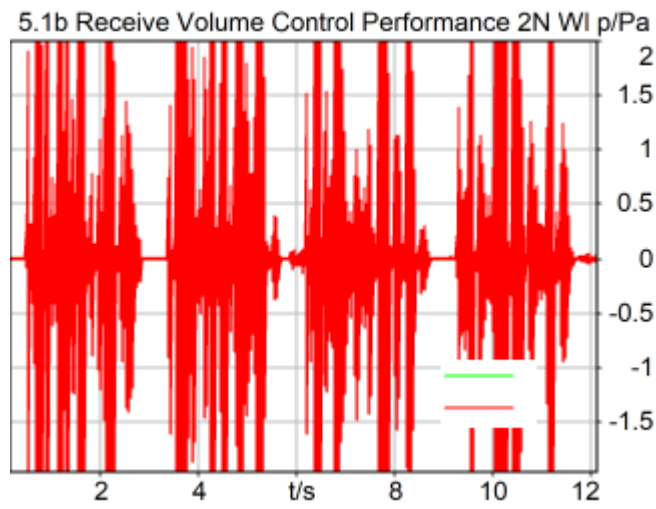


Delay (Cross): 215.4 ms

24/11/19 15:11 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband



Speech Level RCV: 89.17 dB[SPL], Act.: 80.18% Ok

Ok

24/11/19 15:11 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WCDMA IV_Voice_AMR WB 6.60kbps_Ch1413_2N
--------------------	--

Project	4O3003
Report Generation Date	24/11/19 14:48
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	197.4	WCDMA IV_Voice_AMR WB 6. 60kbps_Ch1413_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	89.36	WCDMA IV_Voice_AMR WB 6. 60kbps_Ch1413_2N

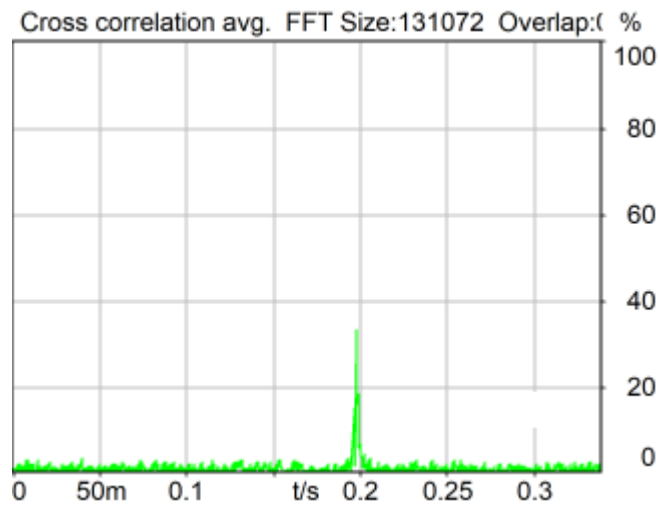
ACQUA Report
60kbps_Ch1413_2N

Title: WCDMA IV_Voice_AMR WB 6.

Overall Receive Delay WB	5
5.1b Receive Volume Control Performance 2N WB	6

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

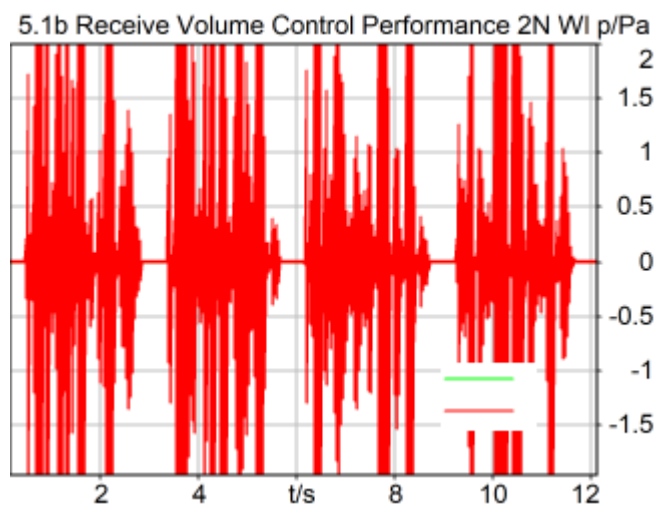


Delay (Cross): 197.4 ms

24/11/19 14:47 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband



Speech Level RCV: 89.36 dB[SPL], Act.: 79.98% Ok

Ok

24/11/19 14:48 ACQUA 5.1.200

Measurement Protocol

Measurement Object	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
--------------------	---

Project	4O3003
Report Generation Date	24/11/19 11:55
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	144.5	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	89.95	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.02	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.84	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.67	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.31	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	46.07	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.57	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	45.17	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	34.20	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	49.03	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.01	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	47.77	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	48.80	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	53.12	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	53.87	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	31.84	LTE Band

ACQUA Report
 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N

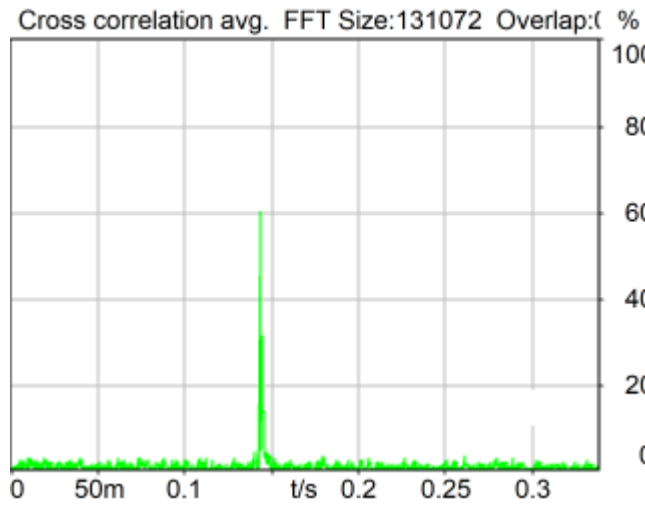
Title: LTE Band

and Noise (Conversational Gain)		, (occured at 315Hz)		66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 2883.7 Hz	2.53	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 4119.5 Hz	1.69	LTE Band 66_20M_QPSK_1RB_0Offset_EVS WB 128kbps_Ch132322_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV Distortion and Noise - 800 Hz WB	13
5.2 RCV Distortion and Noise - 1000 Hz WB	14
5.2 RCV Distortion and Noise - 1250 Hz WB	15
5.2 RCV Distortion and Noise - 1600 Hz WB	16
5.2 RCV Distortion and Noise - 2000 Hz WB	17
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

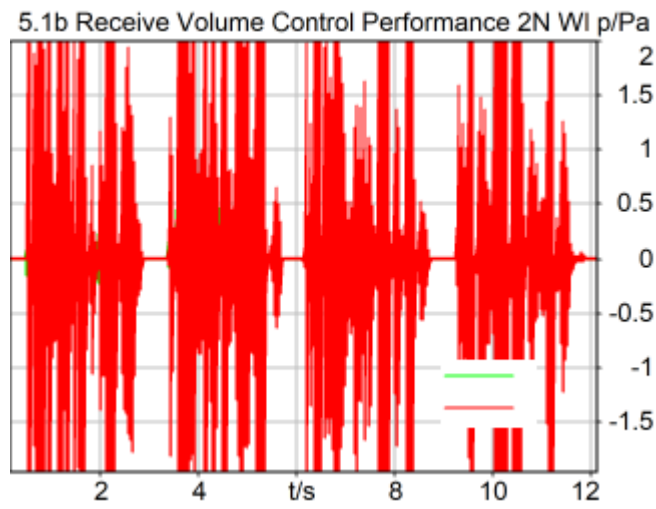


Delay (Cross): 144.5 ms

24/11/19 11:46 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband



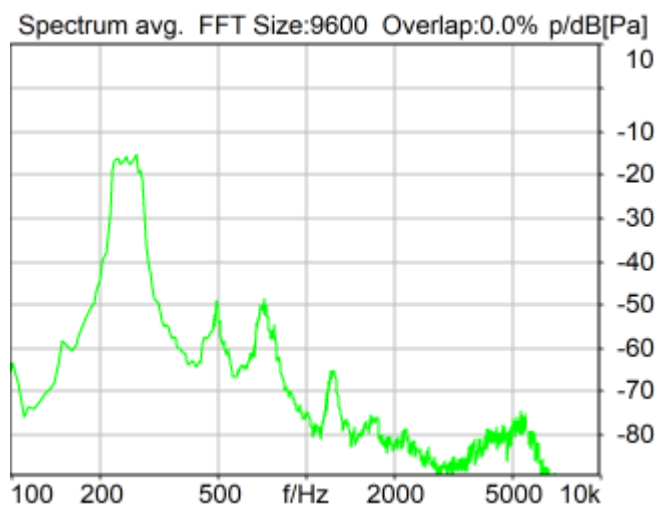
Speech Level RCV: 89.95 dB[SPL], Act.: 83.35% Ok

Ok

24/11/19 11:47 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



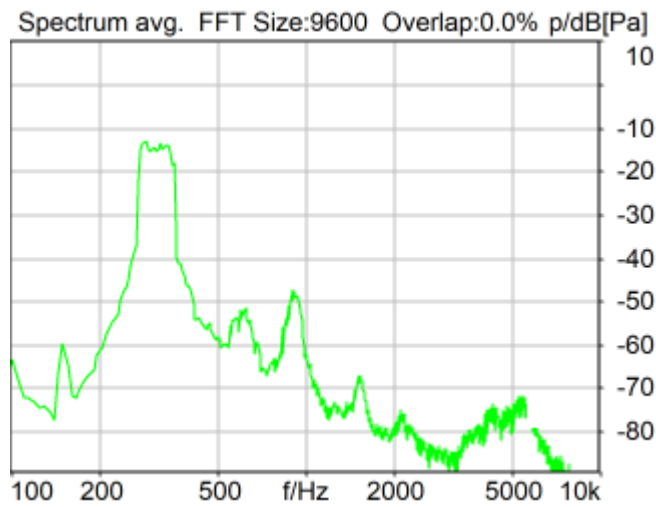
Distortion (Noise) RCV (packed): 32.02 dB (2.51%) Ok

Ok

24/11/19 11:47 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 315 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



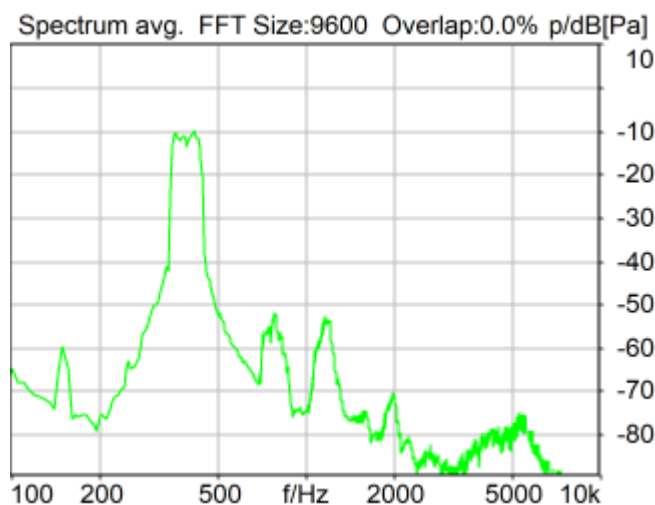
Distortion (Noise) RCV (packed): 31.84 dB (2.56%) Ok

Ok

24/11/19 11:48 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



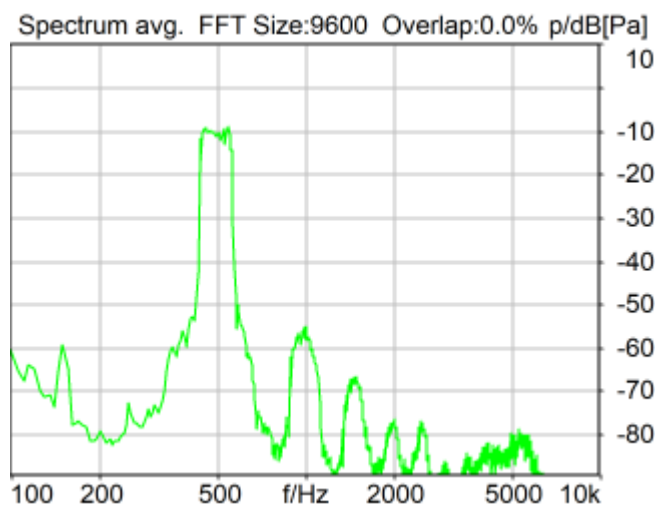
Distortion (Noise) RCV (packed): 37.67 dB (1.31%) Ok

Ok

24/11/19 11:48 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



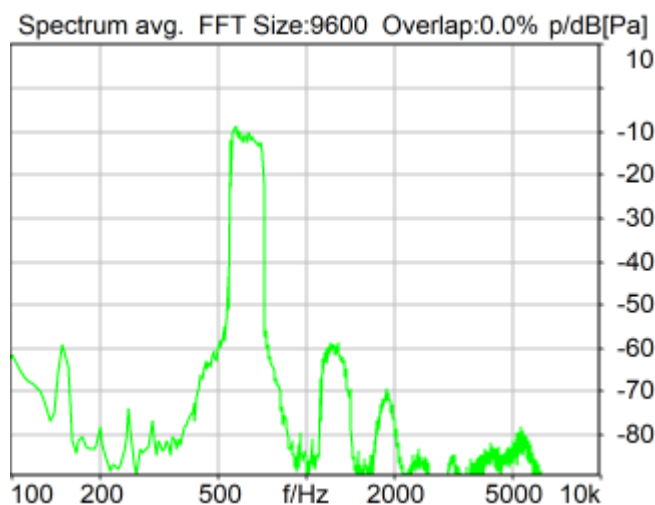
Distortion (Noise) RCV (packed): 44.31 dB (0.61%) Ok

Ok

24/11/19 11:48 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



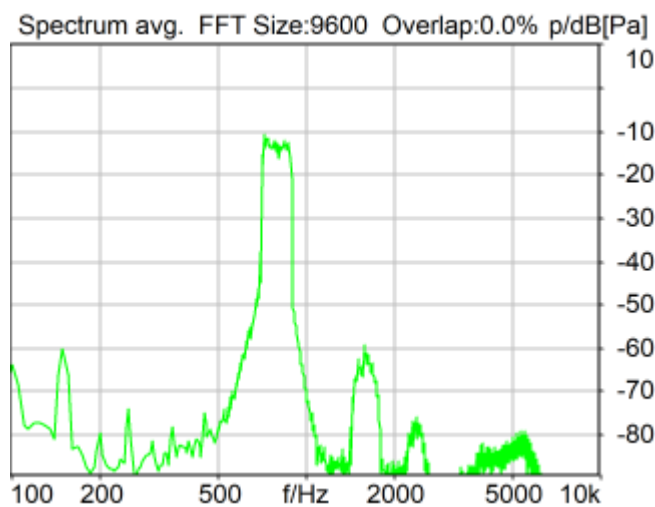
Distortion (Noise) RCV (packed): 46.07 dB (0.50%) Ok

Ok

24/11/19 11:49 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



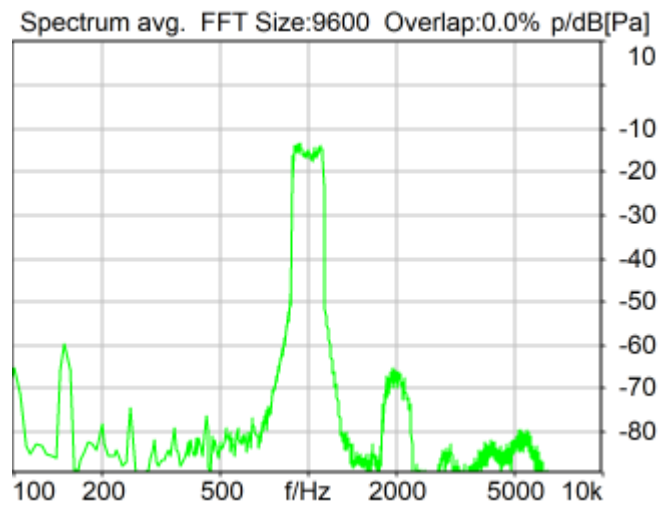
Distortion (Noise) RCV (packed): 44.57 dB (0.59%) Ok

Ok

24/11/19 11:49 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



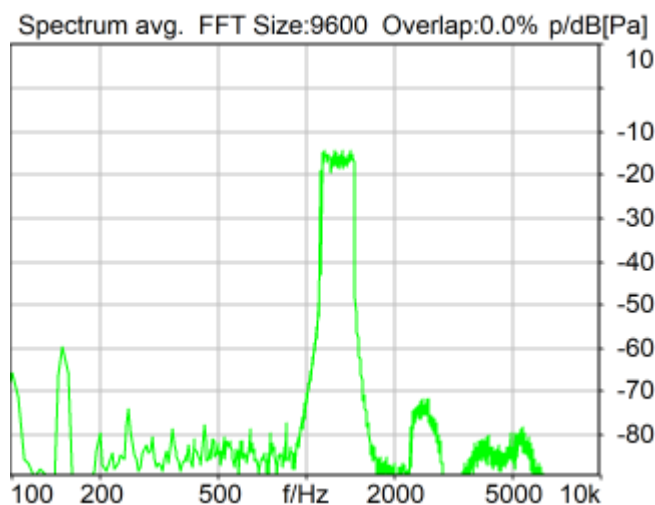
Distortion (Noise) RCV (packed): 45.17 dB (0.55%) Ok

Ok

24/11/19 11:50 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 34.20 dB (1.95%) Ok

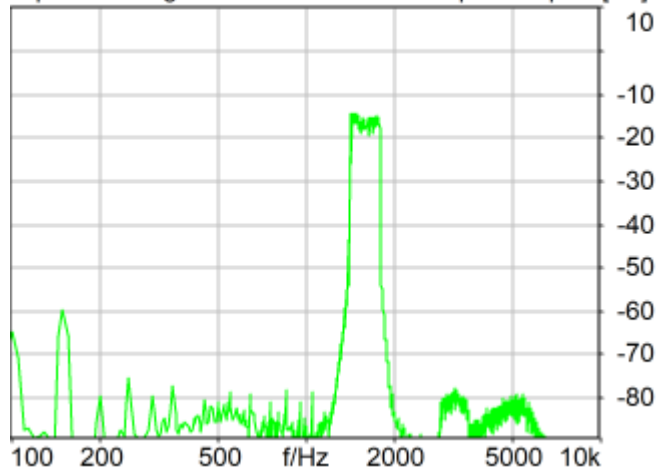
Ok

24/11/19 11:50 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



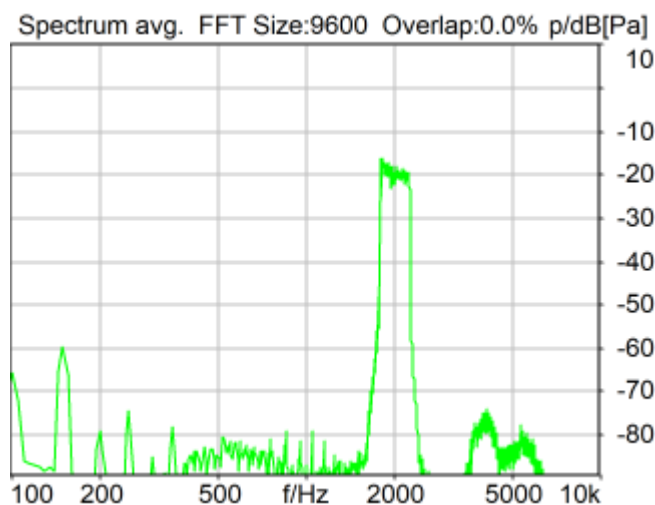
Distortion (Noise) RCV (packed): 49.03 dB (0.35%) Ok

Ok

24/11/19 11:51 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



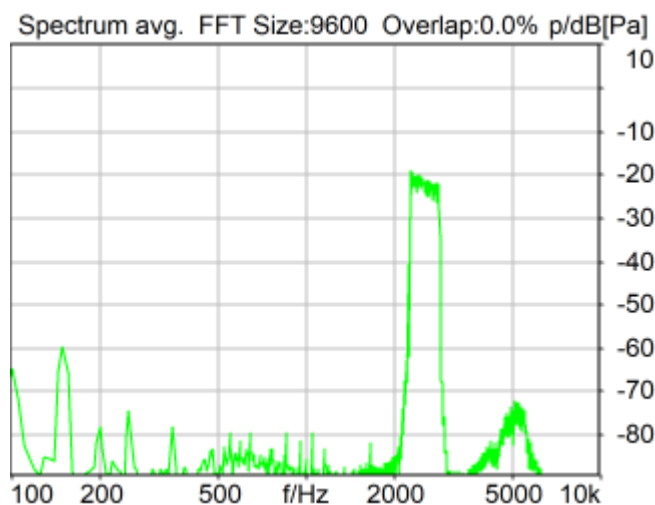
Distortion (Noise) RCV (packed): 47.01 dB (0.45%) Ok

Ok

24/11/19 11:51 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



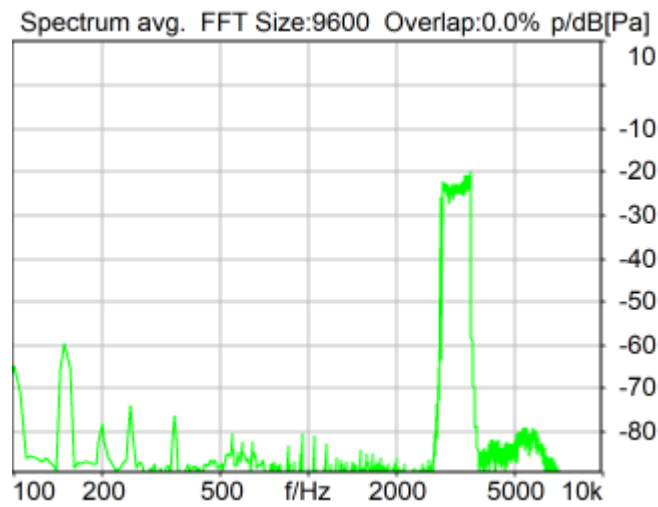
Distortion (Noise) RCV (packed): 47.77 dB (0.41%) Ok

Ok

24/11/19 11:52 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



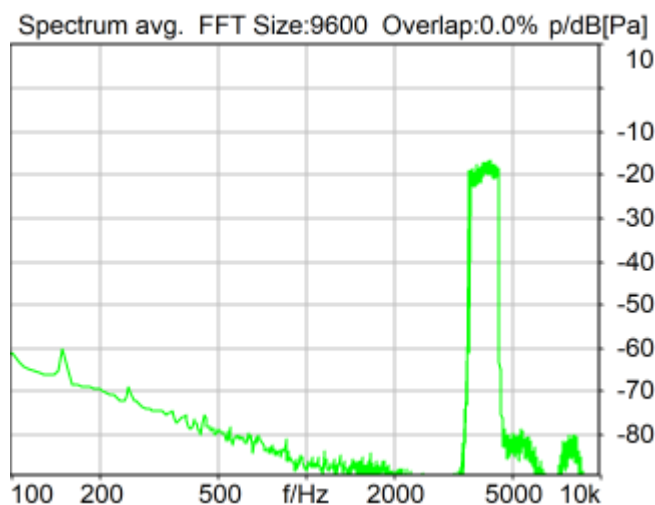
Distortion (Noise) RCV (packed): 48.80 dB (0.36%) Ok

Ok

24/11/19 11:52 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 4000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



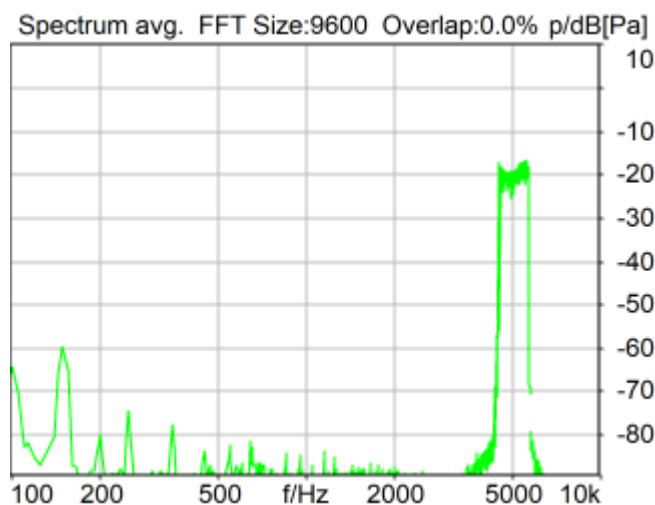
Distortion (Noise) RCV (packed): 53.12 dB (0.22%) Ok

Ok

24/11/19 11:52 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 5000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 53.87 dB (0.20%) Ok

Ok

24/11/19 11:53 ACQUA 5.1.200

Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Region	Frequency	SDNR
1	250Hz	32.02 dB
2	315Hz	31.84 dB
3	400Hz	37.67 dB
4	500Hz	44.31 dB
5	630Hz	46.07 dB
6	800Hz	44.57 dB
7	1000Hz	45.17 dB
8	1250Hz	34.20 dB
9	1600Hz	49.03 dB
10	2000Hz	47.01 dB
11	2500Hz	47.77 dB
12	3150Hz	48.80 dB
13	4000Hz	53.12 dB
14	5000Hz	53.87 dB

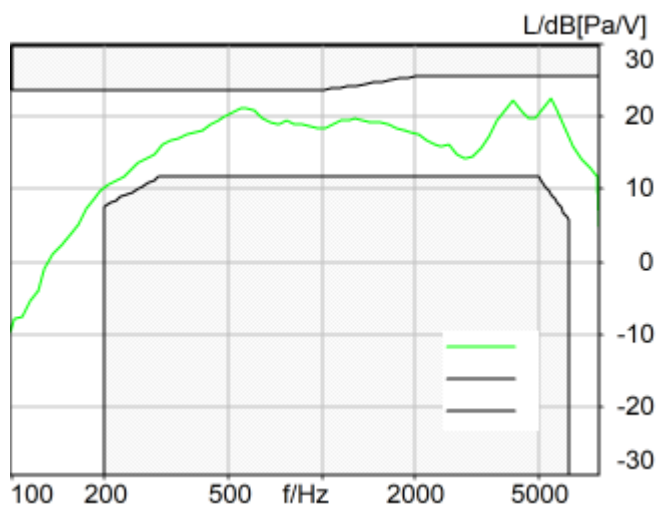
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 31.84dB at 315Hz.

24/11/19 11:53 ACQUA

5.3 Frequency Response 2N FF

TIA-5050 (2018-01) \ Measurements \ Wideband



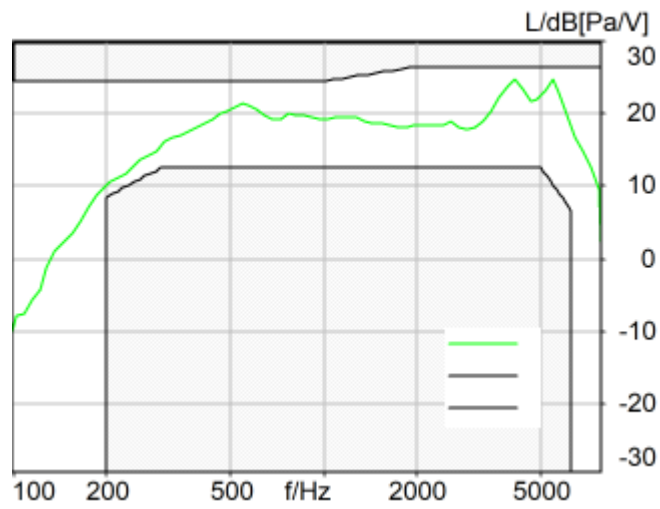
Absolute minimal distance
2.53 dB at 2883.7 Hz Ok

Ok

24/11/19 11:54 ACQUA 5.1.200

5.3 Frequency Response 2N DF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance
1.69 dB at 4119.5 Hz Ok

Ok

24/11/19 11:54 ACQUA 5.1.200

Measurement Protocol

Measurement Object	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
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Project	4O3003
Report Generation Date	24/11/20 14:05
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	281.3	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	87.95	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.24	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	22.77	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.72	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.44	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.29	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.03	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.76	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.83	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.91	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.95	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.69	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N

ACQUA Report
WB 128kbps_Ch376500_2N

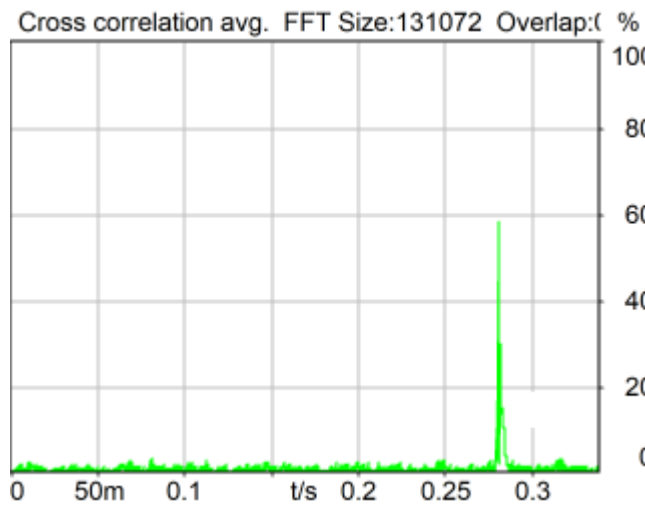
Title: FR1 n25_40M_QPSK_1RB_1Offset_EVS

				EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.74	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	44.80	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.90	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
Report - Receive Distortion and Noise (Conversational Gain)	Ok	Minimum SDNR [dB], (occured at 315Hz)	22.77	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 5443.6 Hz	0.68	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N
5.3 Frequency Response 2N DF	Not Ok	Min. dist. to tolerance scheme [dB], 4119.5 Hz	-0.56	FR1 n25_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch376500_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV Distortion and Noise - 800 Hz WB	13
5.2 RCV Distortion and Noise - 1000 Hz WB	14
5.2 RCV Distortion and Noise - 1250 Hz WB	15
5.2 RCV Distortion and Noise - 1600 Hz WB	16
5.2 RCV Distortion and Noise - 2000 Hz WB	17
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

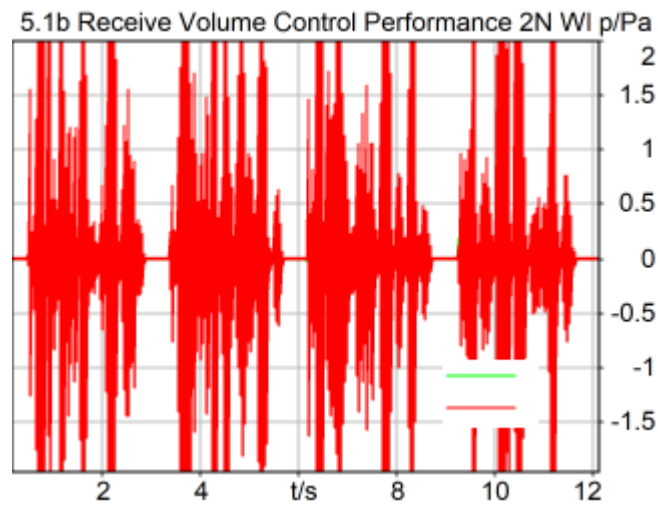


Delay (Cross): 281.3 ms

24/11/20 13:56 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband



Speech Level RCV: 87.95 dB[SPL], Act.: 83.41% Ok

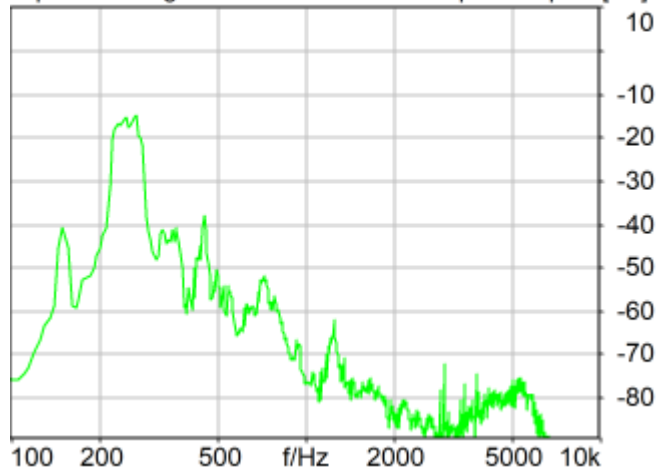
Ok

24/11/20 13:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



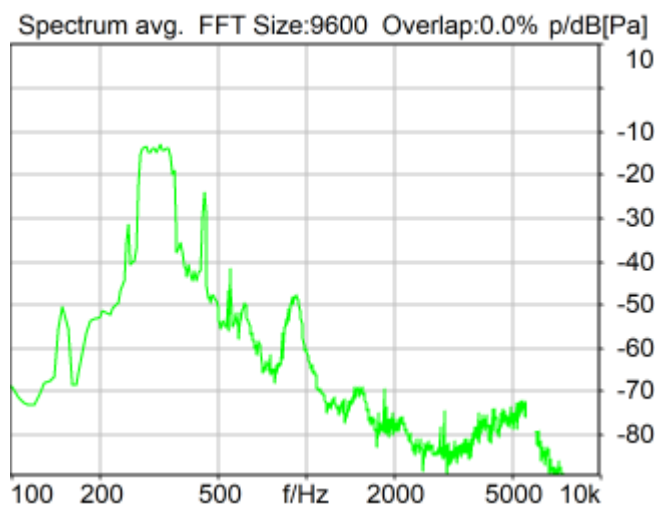
Distortion (Noise) RCV (packed): 27.24 dB (4.34%) Ok

Ok

24/11/20 13:57 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 315 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



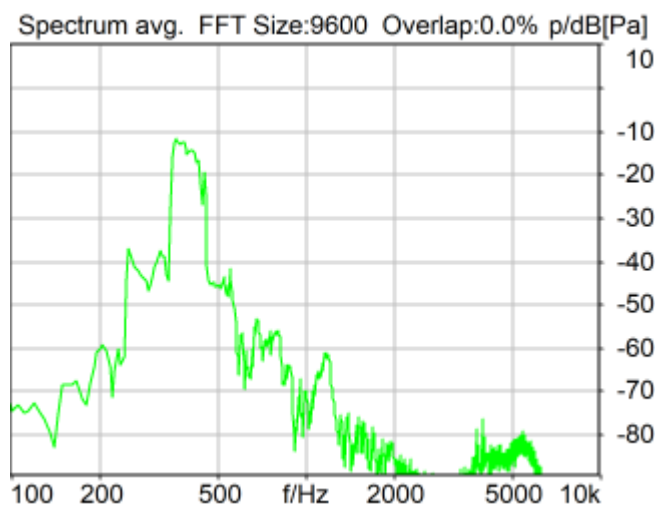
Distortion (Noise) RCV (packed): 22.77 dB (7.27%) Ok

Ok

24/11/20 13:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



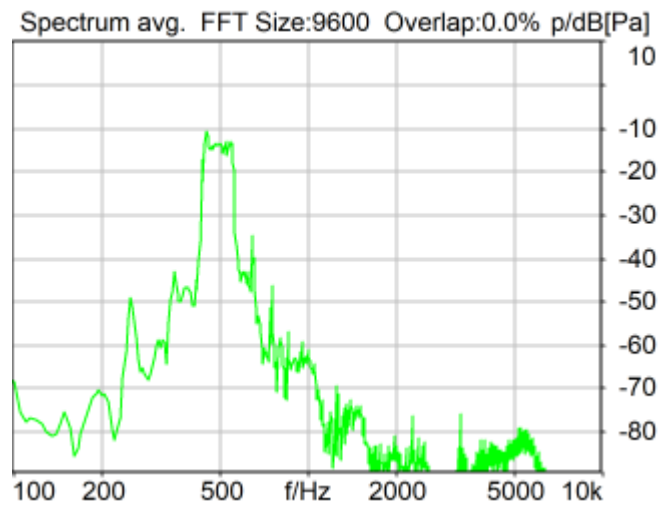
Distortion (Noise) RCV (packed): 31.72 dB (2.59%) Ok

Ok

24/11/20 13:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



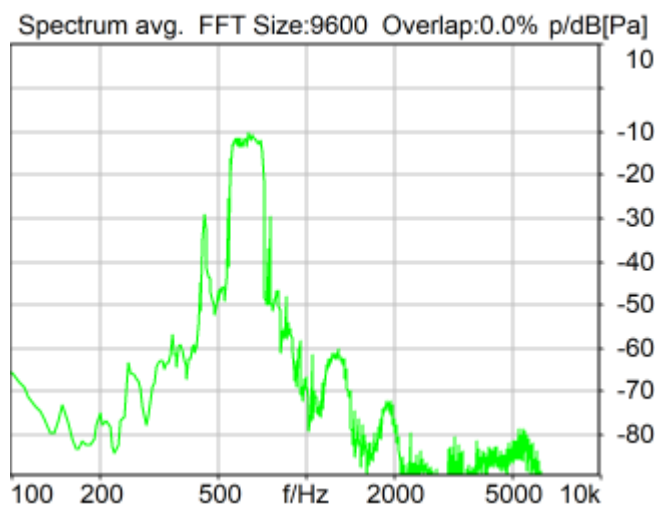
Distortion (Noise) RCV (packed): 31.44 dB (2.68%) Ok

Ok

24/11/20 13:58 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 29.29 dB (3.43%) Ok

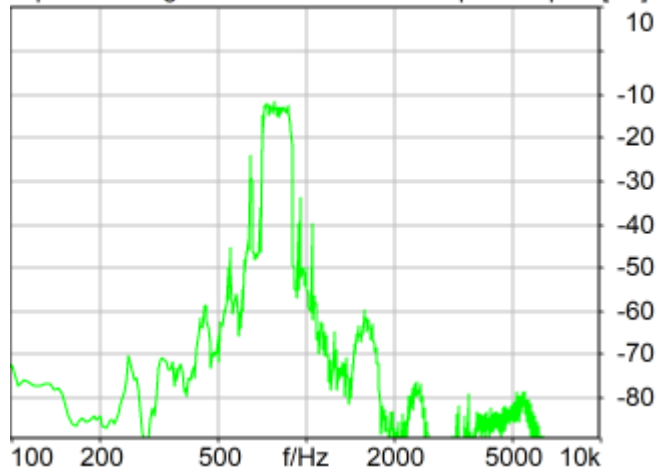
Ok

24/11/20 13:59 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 25.03 dB (5.60%) Ok

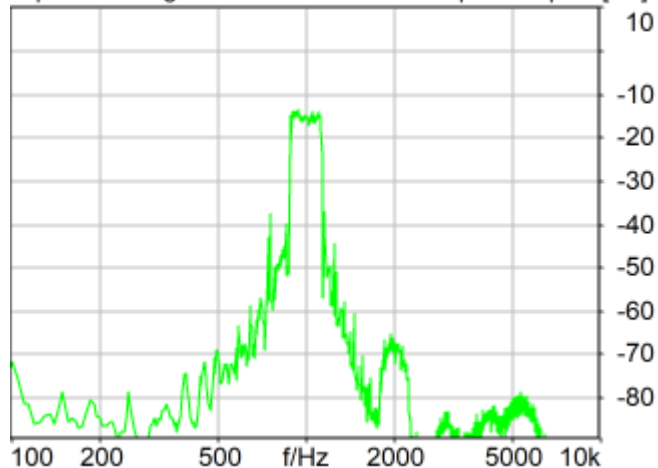
Ok

24/11/20 13:59 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



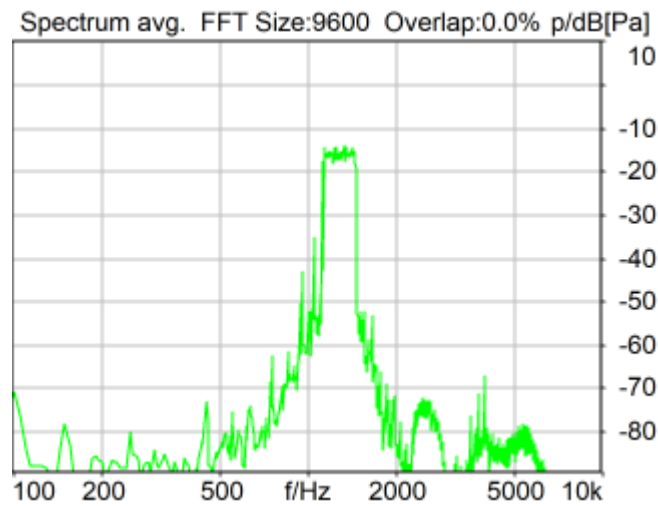
Distortion (Noise) RCV (packed): 33.76 dB (2.05%) Ok

Ok

24/11/20 14:00 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 30.83 dB (2.88%) Ok

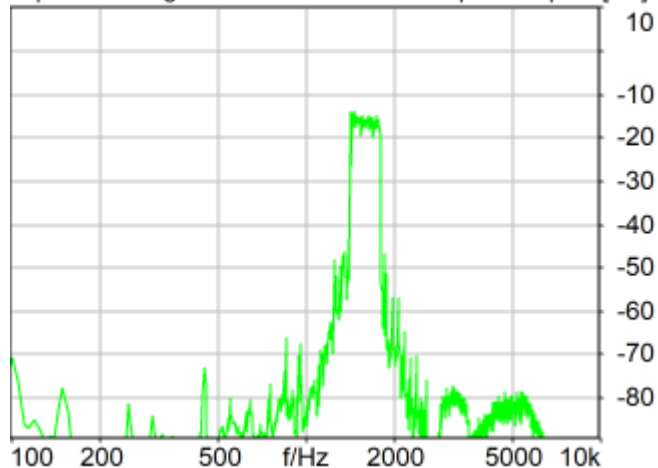
Ok

24/11/20 14:00 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 37.91 dB (1.27%) Ok

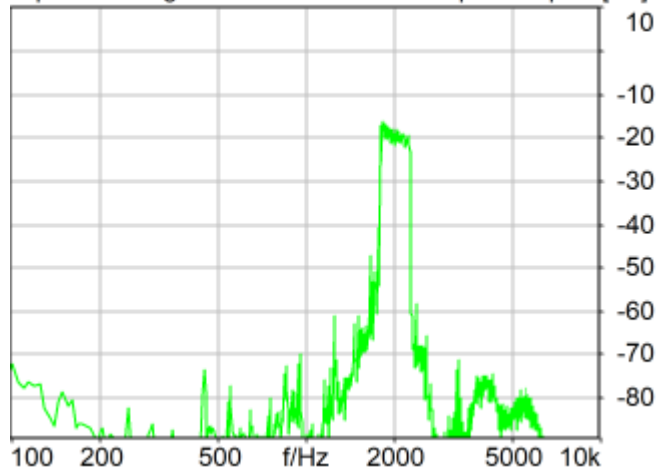
Ok

24/11/20 14:01 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 38.95 dB (1.13%) Ok

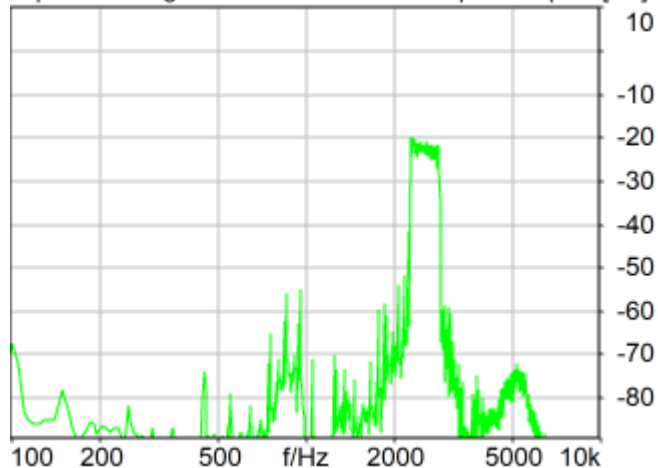
Ok

24/11/20 14:01 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 39.69 dB (1.04%) Ok

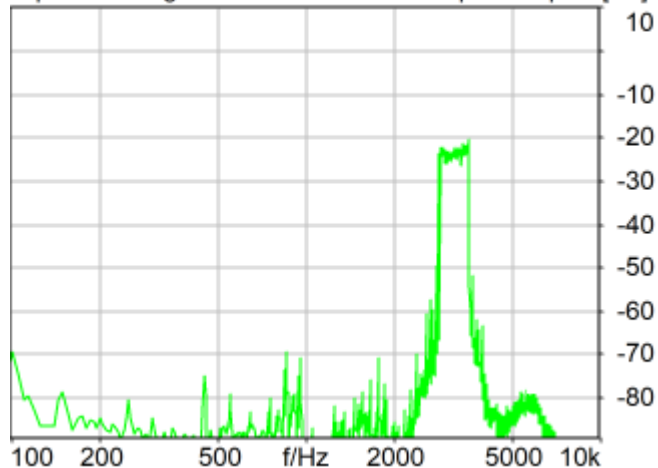
Ok

24/11/20 14:02 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



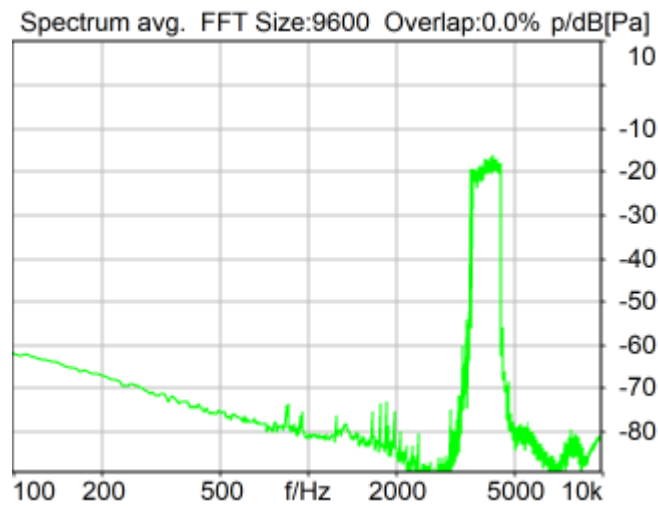
Distortion (Noise) RCV (packed): 39.74 dB (1.03%) Ok

Ok

24/11/20 14:02 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 4000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 44.80 dB (0.58%) Ok

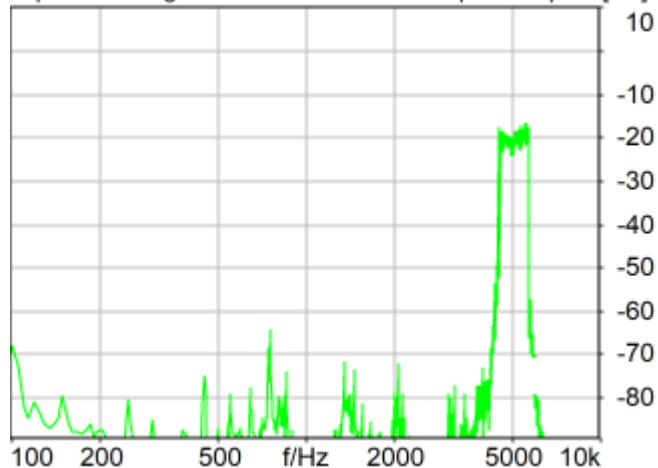
Ok

24/11/20 14:03 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 5000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 42.90 dB (0.72%) Ok

Ok

24/11/20 14:03 ACQUA 5.1.200

Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Region	Frequency	SDNR
1	250Hz	27.24 dB
2	315Hz	22.77 dB
3	400Hz	31.72 dB
4	500Hz	31.44 dB
5	630Hz	29.29 dB
6	800Hz	25.03 dB
7	1000Hz	33.76 dB
8	1250Hz	30.83 dB
9	1600Hz	37.91 dB
10	2000Hz	38.95 dB
11	2500Hz	39.69 dB
12	3150Hz	39.74 dB
13	4000Hz	44.80 dB
14	5000Hz	42.90 dB

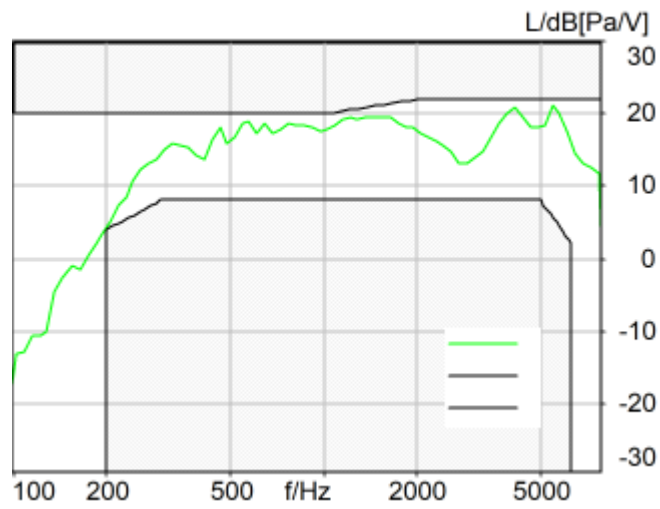
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 22.77dB at 315Hz.

24/11/20 14:03 ACQUA

5.3 Frequency Response 2N FF

TIA-5050 (2018-01) \ Measurements \ Wideband



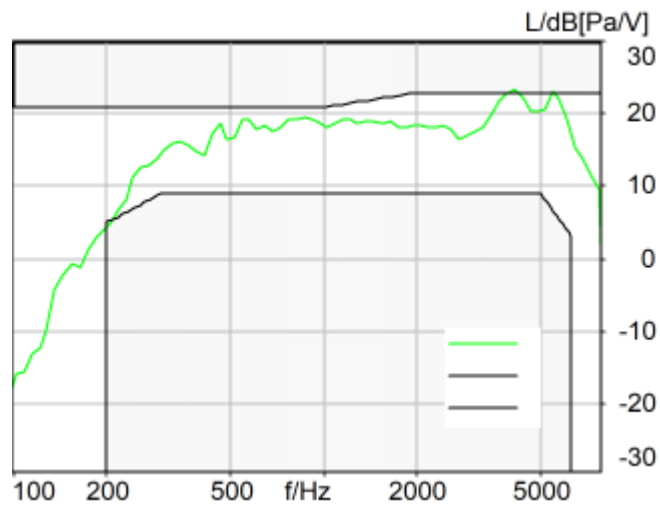
Absolute minimal distance
0.68 dB at 5443.6 Hz Ok

Ok

24/11/20 14:04 ACQUA 5.1.200

5.3 Frequency Response 2N DF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance
-0.56 dB at 4119.5 Hz Not Ok

Not Ok

24/11/20 14:04 ACQUA 5.1.200

Measurement Protocol

Measurement Object	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
--------------------	---

Project	4O3003
Report Generation Date	24/11/20 13:27
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	311.1	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.1a Receive Volume Control Performance 8N WB	Ok	Speech Level [dB[SPL]]	92.31	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	26.28	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.95	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.57	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.70	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.22	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	25.00	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	33.76	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.08	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	37.32	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	38.20	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	41.15	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	39.89	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.93	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	42.14	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
Report - Receive Distortion	Ok	Minimum SDNR [dB]	21.95	FR1

ACQUA Report
WB 128kbps_Ch349000_8N

Title: FR1 n66_40M_QPSK_1RB_1Offset_EVS

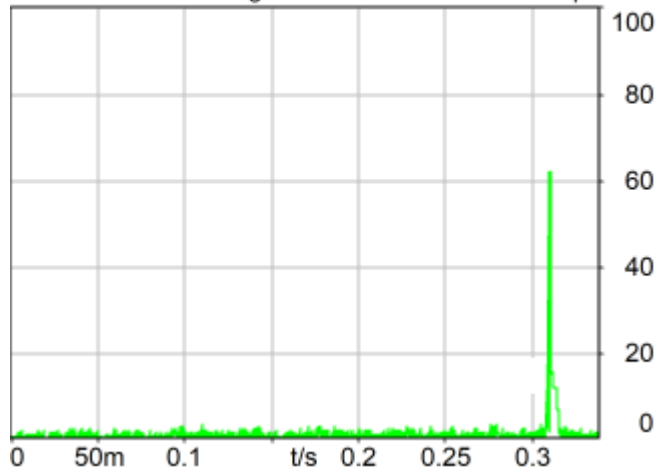
and Noise (Conversational Gain)		, (occured at 315Hz)		n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.3 Frequency Response 8N FF	Ok	Min. dist. to tolerance scheme [dB], 776.5 Hz	0.52	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N
5.3 Frequency Response 8N DF	Ok	Min. dist. to tolerance scheme [dB], 776.5 Hz	0.50	FR1 n66_40M_QPSK_1RB_1Offset_EVS WB 128kbps_Ch349000_8N

Overall Receive Delay WB	6
5.1a Receive Volume Control Performance 8N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV Distortion and Noise - 800 Hz WB	13
5.2 RCV Distortion and Noise - 1000 Hz WB	14
5.2 RCV Distortion and Noise - 1250 Hz WB	15
5.2 RCV Distortion and Noise - 1600 Hz WB	16
5.2 RCV Distortion and Noise - 2000 Hz WB	17
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 8N FF	23
5.3 Frequency Response 8N DF	24

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

Cross correlation avg. FFT Size:131072 Overlap:0 %

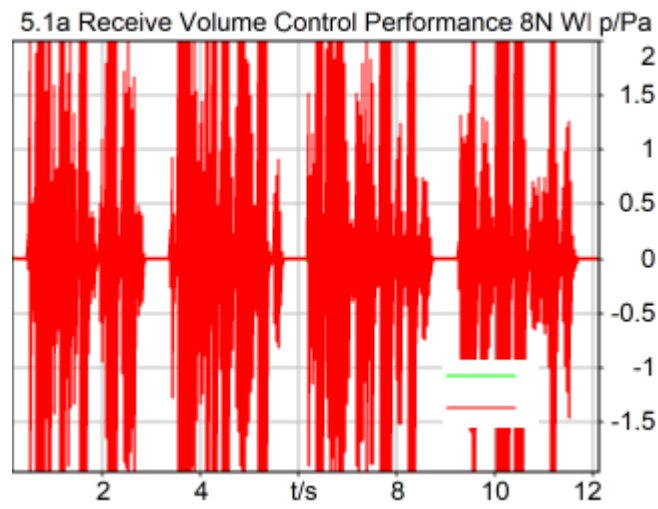


Delay (Cross): 311.1 ms

24/11/20 13:18 ACQUA 5.1.200

5.1a Receive Volume Control Performance 8N WB

TIA-5050 (2018-01) \ Measurements \ Wideband



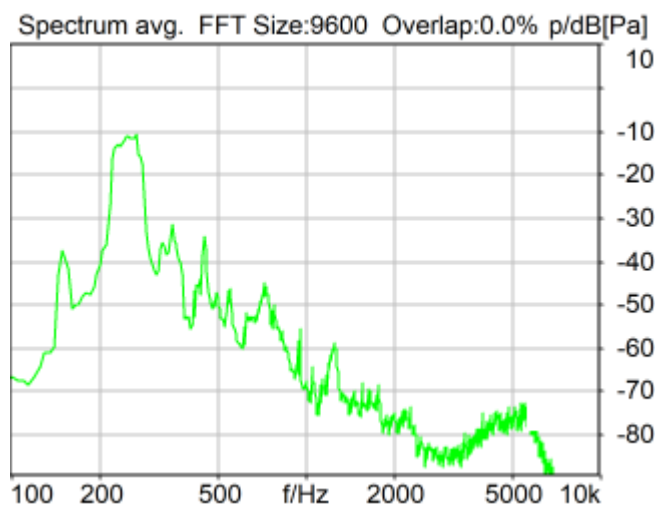
Speech Level RCV: 92.31 dB[SPL], Act.: 82.86% Ok

Ok

24/11/20 13:19 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N



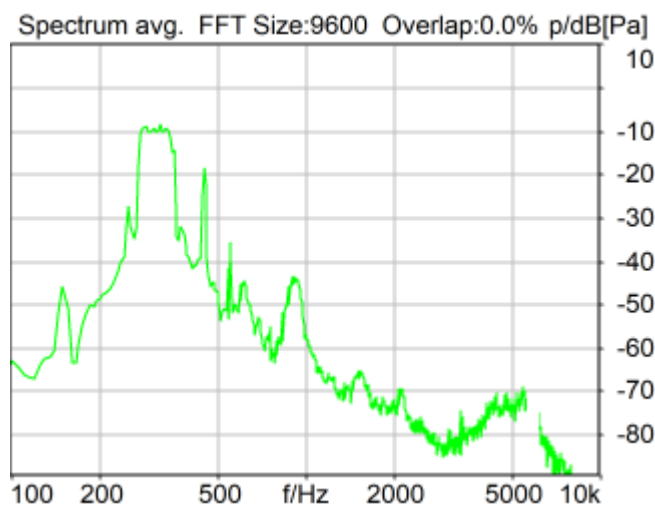
Distortion (Noise) RCV (packed): 26.28 dB (4.85%) Ok

Ok

24/11/20 13:19 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 315 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N



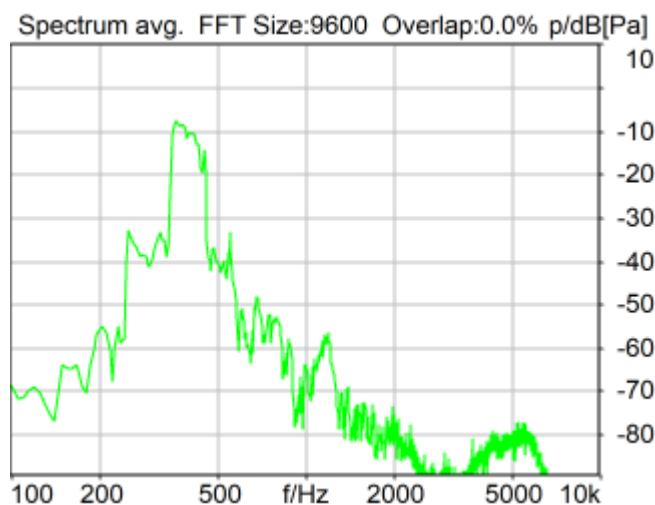
Distortion (Noise) RCV (packed): 21.95 dB (7.99%) Ok

Ok

24/11/20 13:19 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N



Distortion (Noise) RCV (packed): 30.57 dB (2.96%) Ok

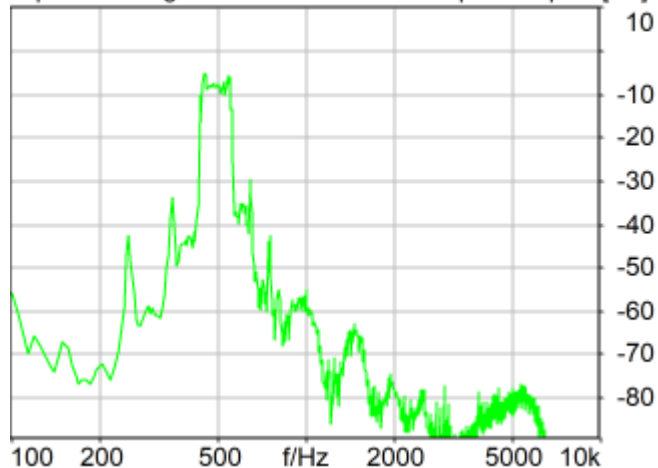
Ok

24/11/20 13:20 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 31.70 dB (2.60%) Ok

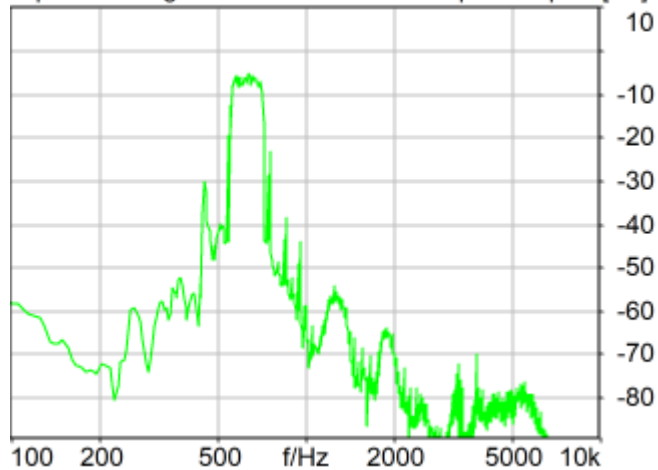
Ok

24/11/20 13:20 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



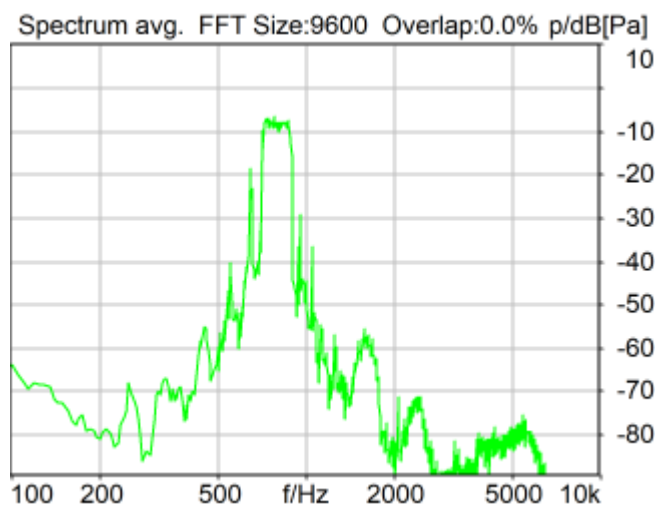
Distortion (Noise) RCV (packed): 30.22 dB (3.08%) Ok

Ok

24/11/20 13:21 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N



Distortion (Noise) RCV (packed): 25.00 dB (5.63%) Ok

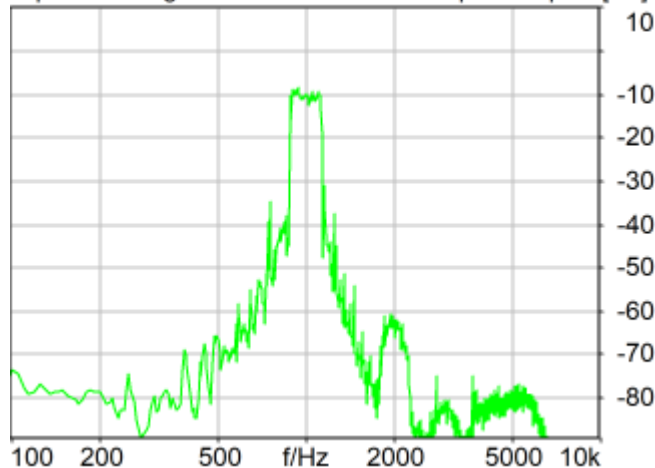
Ok

24/11/20 13:21 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 33.76 dB (2.05%) Ok

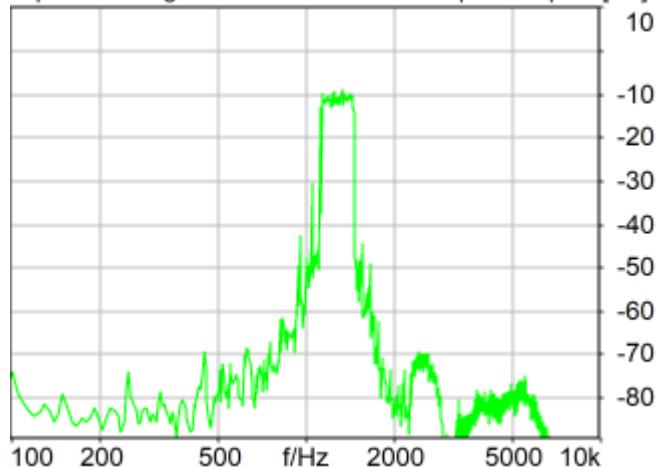
Ok

24/11/20 13:22 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 31.08 dB (2.79%) Ok

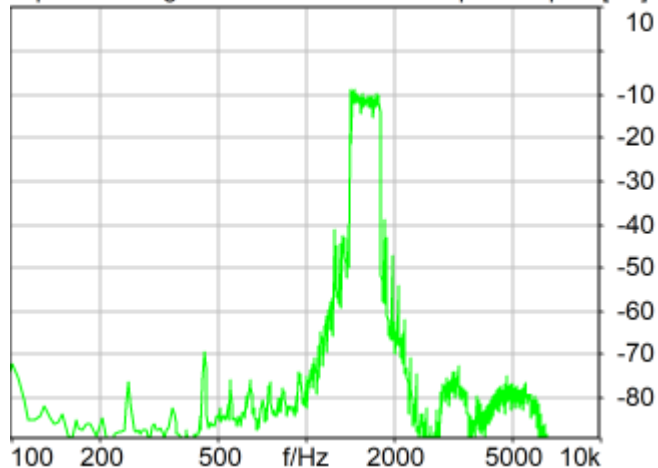
Ok

24/11/20 13:22 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 37.32 dB (1.36%) Ok

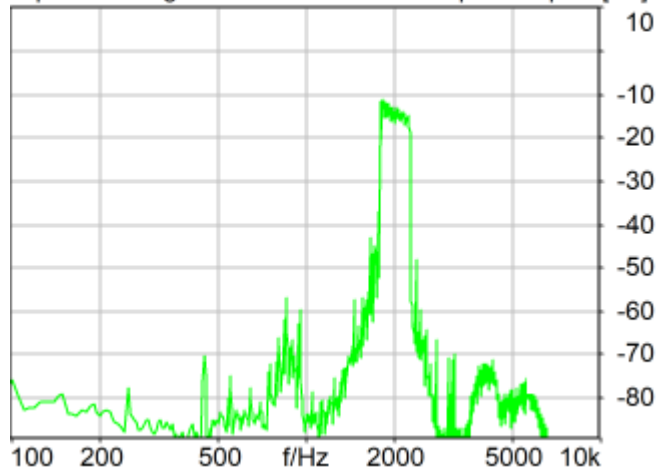
Ok

24/11/20 13:23 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 38.20 dB (1.23%) Ok

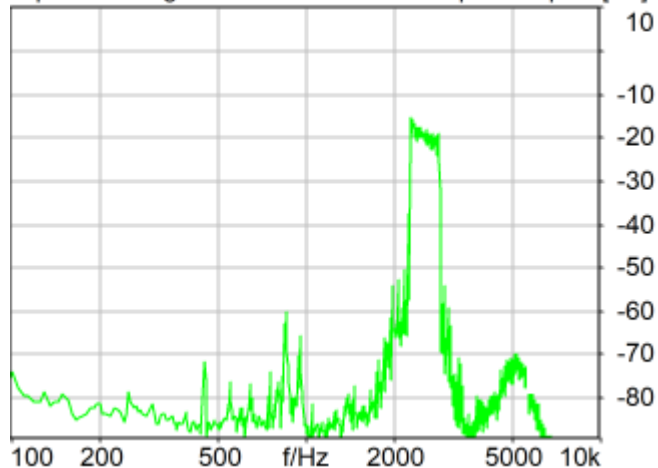
Ok

24/11/20 13:23 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 41.15 dB (0.88%) Ok

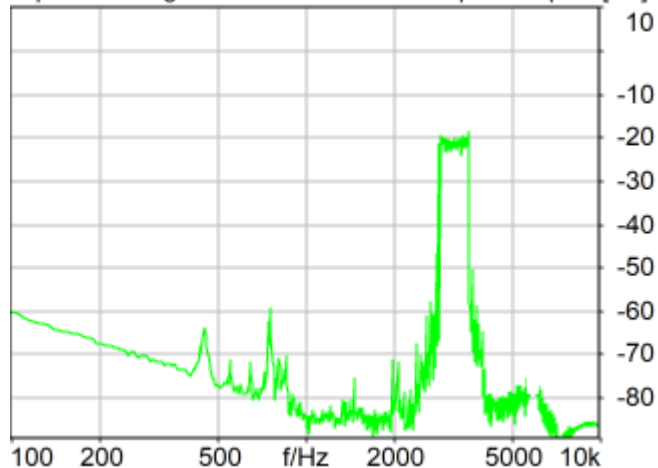
Ok

24/11/20 13:24 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 39.89 dB (1.01%) Ok

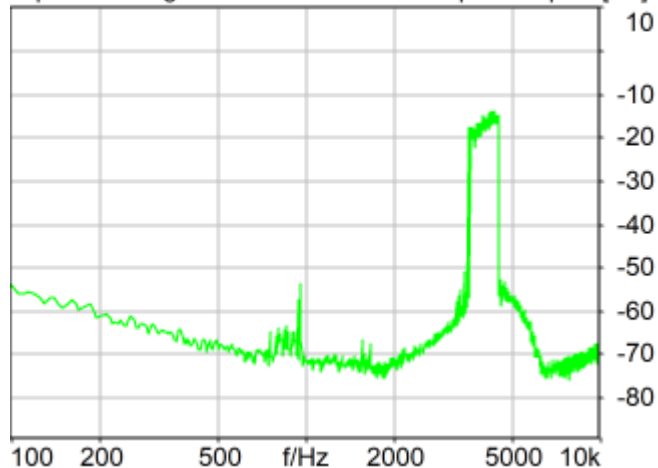
Ok

24/11/20 13:24 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 4000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 30.93 dB (2.84%) Ok

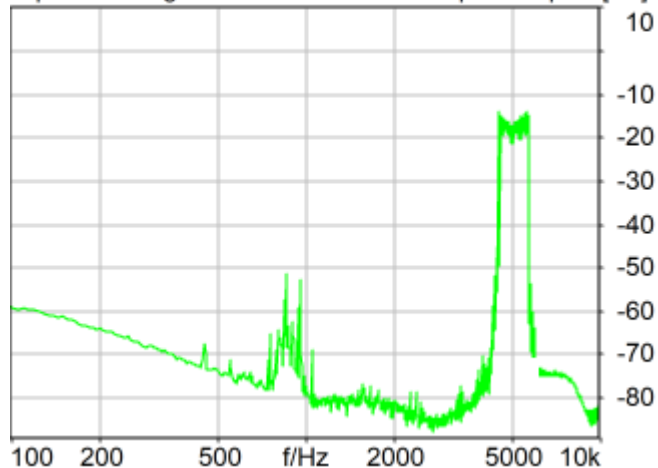
Ok

24/11/20 13:25 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 5000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 42.14 dB (0.78%) Ok

Ok

24/11/20 13:25 ACQUA 5.1.200

Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 8N

Region	Frequency	SDNR
1	250Hz	26.28 dB
2	315Hz	21.95 dB
3	400Hz	30.57 dB
4	500Hz	31.70 dB
5	630Hz	30.22 dB
6	800Hz	25.00 dB
7	1000Hz	33.76 dB
8	1250Hz	31.08 dB
9	1600Hz	37.32 dB
10	2000Hz	38.20 dB
11	2500Hz	41.15 dB
12	3150Hz	39.89 dB
13	4000Hz	30.93 dB
14	5000Hz	42.14 dB

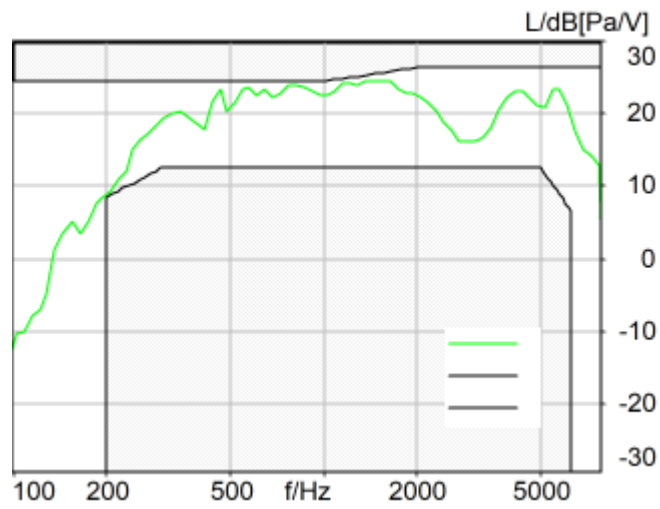
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 21.95dB at 315Hz.

24/11/20 13:25 ACQUA

5.3 Frequency Response 8N FF

TIA-5050 (2018-01) \ Measurements \ Wideband



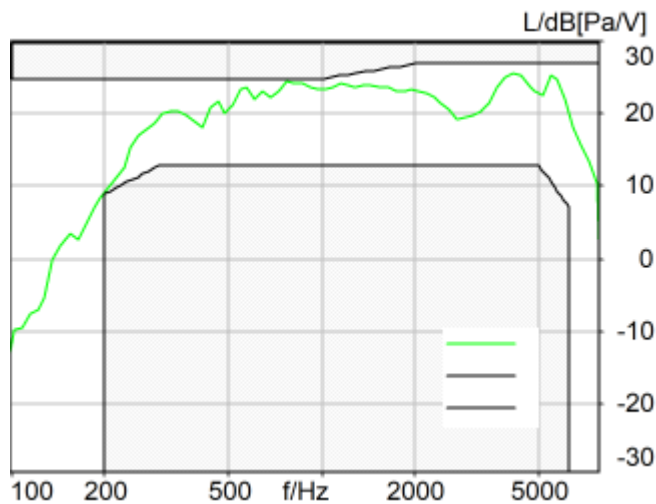
Absolute minimal distance
0.52 dB at 776.5 Hz Ok

Ok

24/11/20 13:26 ACQUA 5.1.200

5.3 Frequency Response 8N DF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance
0.50 dB at 776.5 Hz Ok

Ok

24/11/20 13:26 ACQUA 5.1.200

Measurement Protocol

Measurement Object	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
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Project	4O3003
Report Generation Date	24/11/20 19:33
Responsible Person	AC01-KS

Status Overview

SMD	Status	Single Value Description	Single Value	Object
Overall Receive Delay WB	Done	Delay (Cross) [ms]	226.1	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.1b Receive Volume Control Performance 2N WB	Ok	Speech Level [dB[SPL]]	90.16	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.72	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 315 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.13	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 400 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	29.53	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.26	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 630 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.45	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 800 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	28.37	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	27.08	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1250 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	21.39	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 1600 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	30.16	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 2000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.61	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 2500 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	31.56	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 3150 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	32.53	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 4000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.93	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.2 RCV Distortion and Noise - 5000 Hz WB	Ok	Distortion (Noise) [dB], 0.0 dB	35.46	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
Report - Receive Distortion	Ok	Minimum SDNR [dB],	21.39	WLAN5GHz_802.11a

ACQUA Report
128kbps_Ch40_2N

Title: WLAN5GHz_802.11a 6Mbps_EVS WB

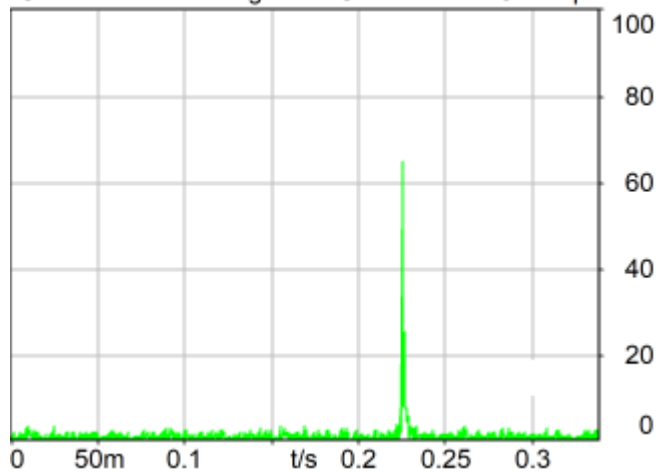
and Noise (Conversational Gain)		(occured at 1250Hz)		6Mbps_EVS WB 128kbps_Ch40_2N
5.3 Frequency Response 2N FF	Ok	Min. dist. to tolerance scheme [dB], 5443.6 Hz	1.52	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N
5.3 Frequency Response 2N DF	Ok	Min. dist. to tolerance scheme [dB], 5443.6 Hz	0.59	WLAN5GHz_802.11a 6Mbps_EVS WB 128kbps_Ch40_2N

Overall Receive Delay WB	6
5.1b Receive Volume Control Performance 2N WB	7
5.2 RCV Distortion and Noise - 250 Hz WB	8
5.2 RCV Distortion and Noise - 315 Hz WB	9
5.2 RCV Distortion and Noise - 400 Hz WB	10
5.2 RCV Distortion and Noise - 500 Hz WB	11
5.2 RCV Distortion and Noise - 630 Hz WB	12
5.2 RCV Distortion and Noise - 800 Hz WB	13
5.2 RCV Distortion and Noise - 1000 Hz WB	14
5.2 RCV Distortion and Noise - 1250 Hz WB	15
5.2 RCV Distortion and Noise - 1600 Hz WB	16
5.2 RCV Distortion and Noise - 2000 Hz WB	17
5.2 RCV Distortion and Noise - 2500 Hz WB	18
5.2 RCV Distortion and Noise - 3150 Hz WB	19
5.2 RCV Distortion and Noise - 4000 Hz WB	20
5.2 RCV Distortion and Noise - 5000 Hz WB	21
Report - Receive Distortion and Noise (Conversational Gain)	22
5.3 Frequency Response 2N FF	23
5.3 Frequency Response 2N DF	24

Overall Receive Delay WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ Preparation - Delay measurement

Cross correlation avg. FFT Size:131072 Overlap:(%

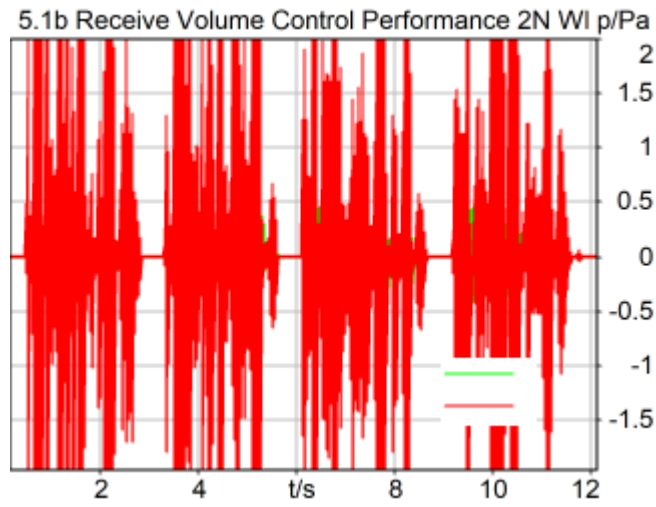


Delay (Cross): 226.1 ms

24/11/20 19:21 ACQUA 5.1.200

5.1b Receive Volume Control Performance 2N WB

TIA-5050 (2018-01) \ Measurements \ Wideband



Speech Level RCV: 90.16 dB[SPL], Act.: 82.24% Ok

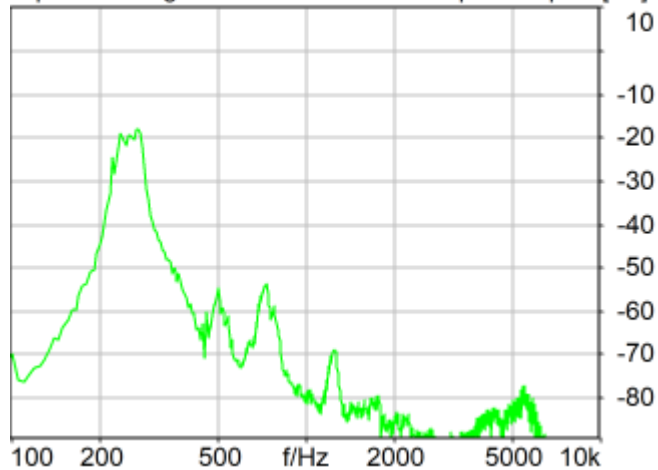
Ok

24/11/20 19:21 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



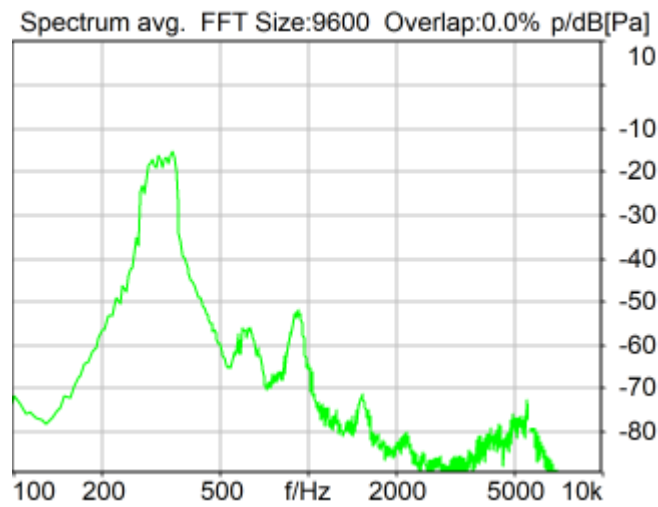
Distortion (Noise) RCV (packed): 30.72 dB (2.91%) Ok

Ok

24/11/20 19:22 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 315 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



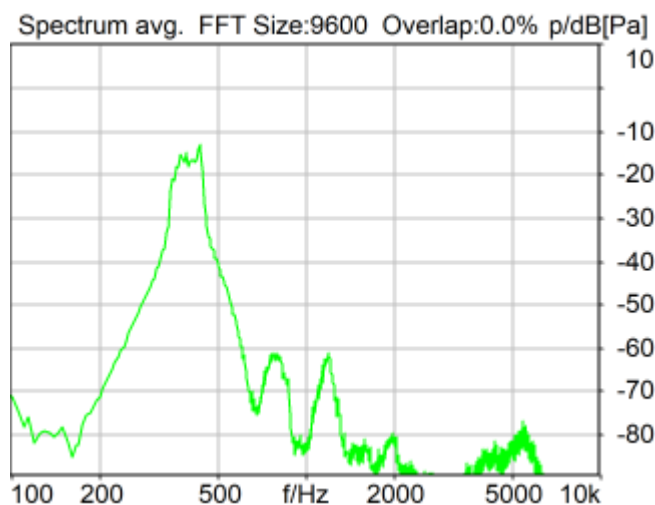
Distortion (Noise) RCV (packed): 31.13 dB (2.78%) Ok

Ok

24/11/20 19:22 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 400 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



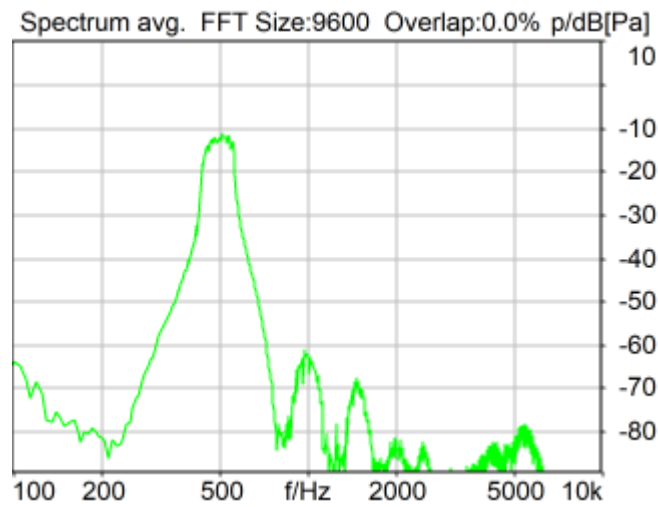
Distortion (Noise) RCV (packed): 29.53 dB (3.34%) Ok

Ok

24/11/20 19:23 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 30.26 dB (3.07%) Ok

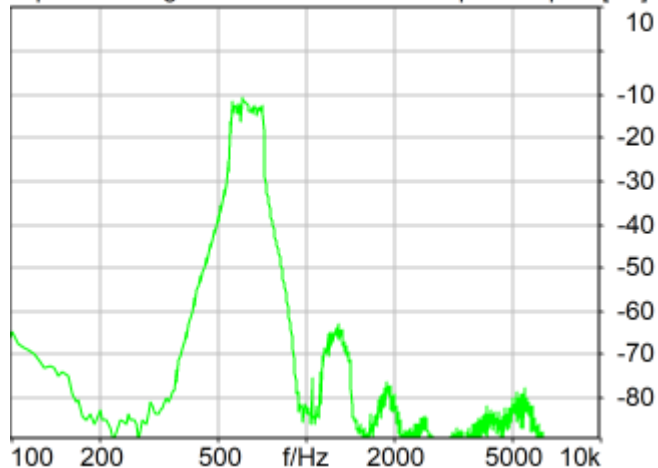
Ok

24/11/20 19:23 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 630 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



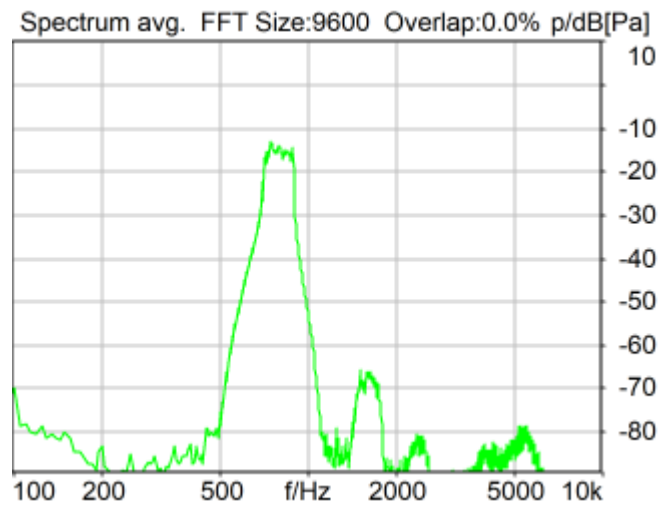
Distortion (Noise) RCV (packed): 30.45 dB (3.00%) Ok

Ok

24/11/20 19:24 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 800 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



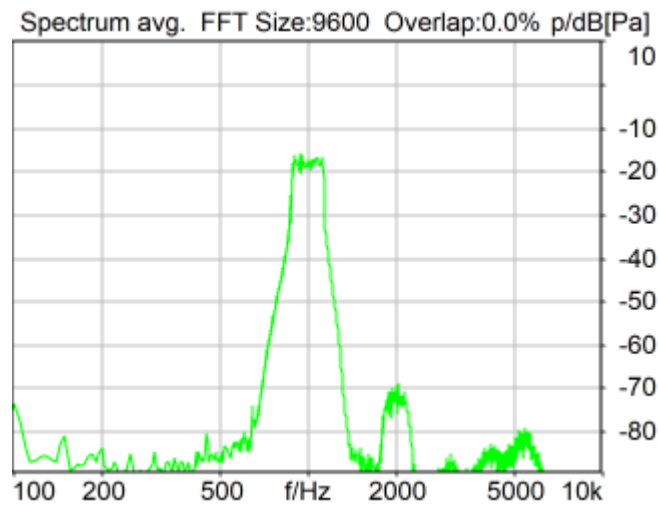
Distortion (Noise) RCV (packed): 28.37 dB (3.82%) Ok

Ok

24/11/20 19:24 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 27.08 dB (4.42%) Ok

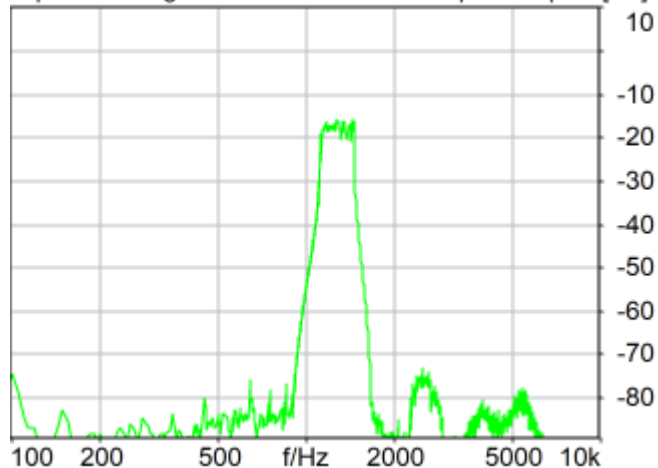
Ok

24/11/20 19:25 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1250 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



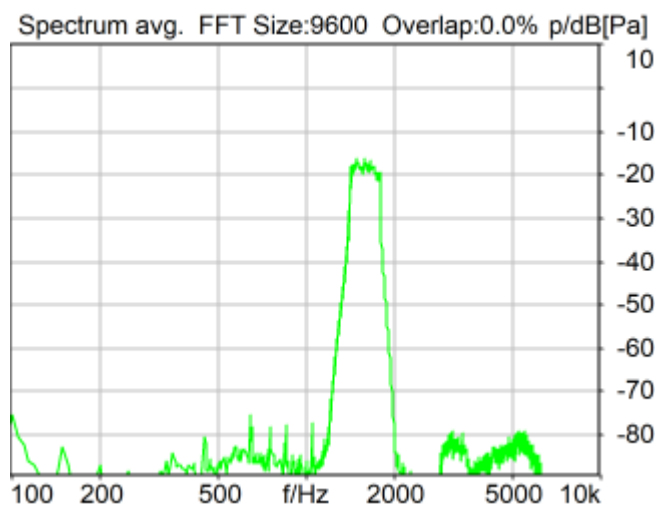
Distortion (Noise) RCV (packed): 21.39 dB (8.52%) Ok

Ok

24/11/20 19:25 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 1600 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



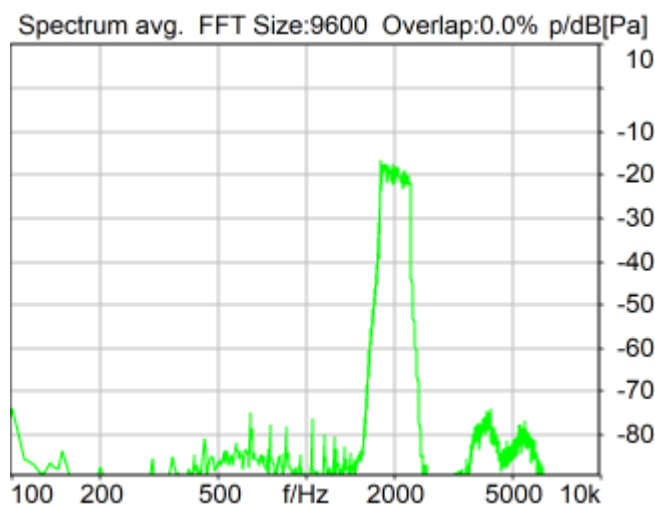
Distortion (Noise) RCV (packed): 30.16 dB (3.11%) Ok

Ok

24/11/20 19:26 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N



Distortion (Noise) RCV (packed): 32.61 dB (2.34%) Ok

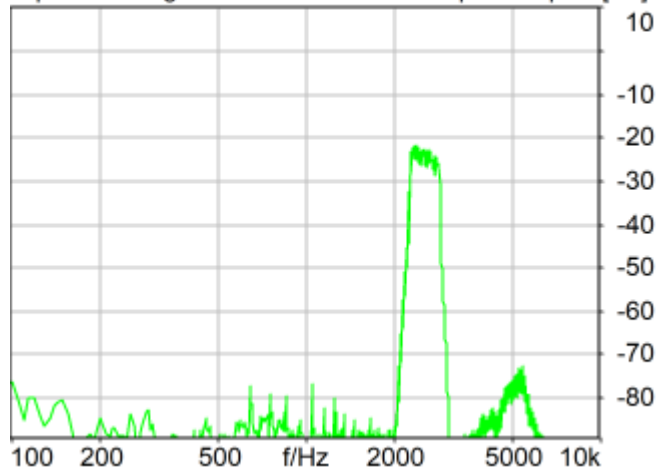
Ok

24/11/20 19:26 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 2500 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 31.56 dB (2.64%) Ok

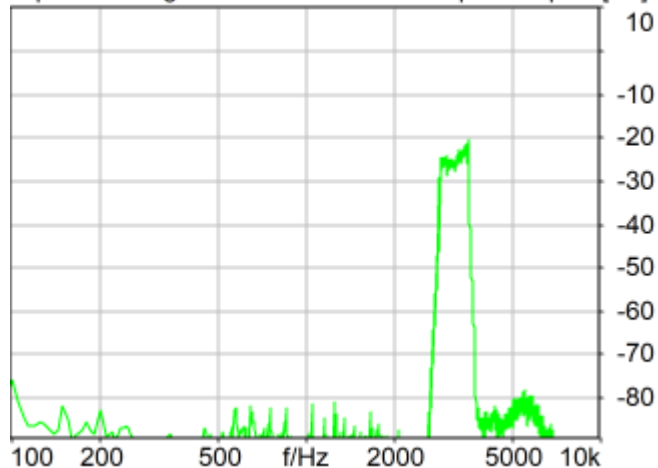
Ok

24/11/20 19:27 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 3150 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 32.53 dB (2.36%) Ok

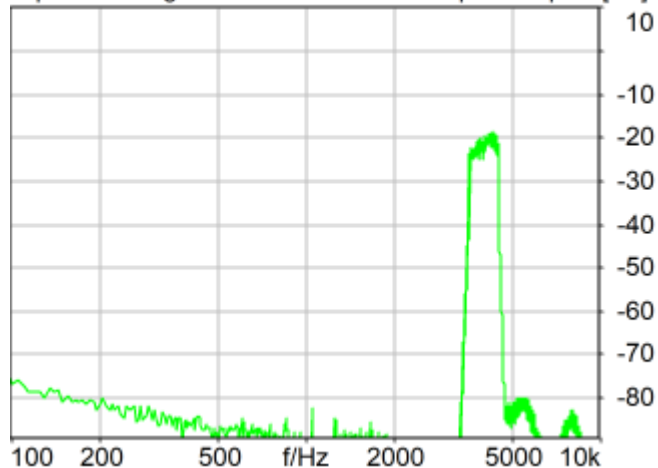
Ok

24/11/20 19:27 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 4000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 35.93 dB (1.60%) Ok

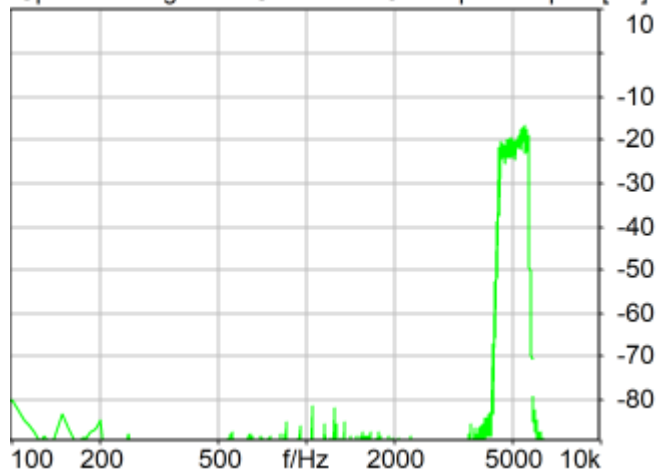
Ok

24/11/20 19:27 ACQUA 5.1.200

5.2 RCV Distortion and Noise - 5000 Hz WB

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Spectrum avg. FFT Size:9600 Overlap:0.0% p/dB[Pa]



Distortion (Noise) RCV (packed): 35.46 dB (1.69%) Ok

Ok

24/11/20 19:28 ACQUA 5.1.200

Report - Receive Distortion and Noise (Conversational Gain)

TIA-5050 (2018-01) \ Measurements \ Wideband \ 5.2 Receive Distortion and Noise 2N

Region	Frequency	SDNR
1	250Hz	30.72 dB
2	315Hz	31.13 dB
3	400Hz	29.53 dB
4	500Hz	30.26 dB
5	630Hz	30.45 dB
6	800Hz	28.37 dB
7	1000Hz	27.08 dB
8	1250Hz	21.39 dB
9	1600Hz	30.16 dB
10	2000Hz	32.61 dB
11	2500Hz	31.56 dB
12	3150Hz	32.53 dB
13	4000Hz	35.93 dB
14	5000Hz	35.46 dB

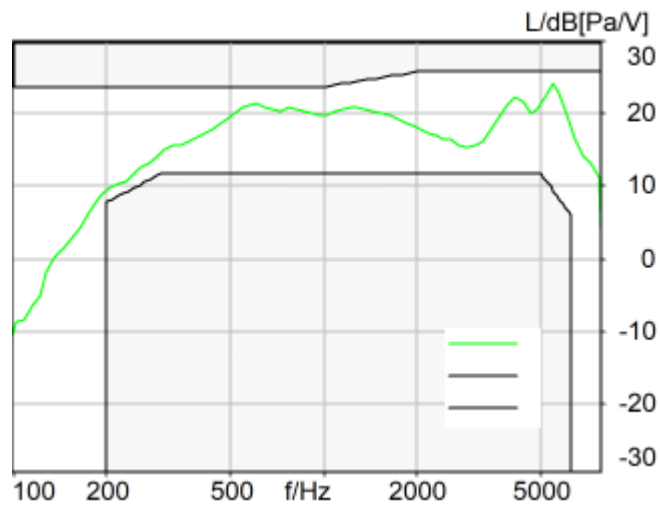
All SDNRs were greater than 20.0 dB, requirement was met.

Smallest SDNR was 21.39dB at 1250Hz.

24/11/20 19:31 ACQUA

5.3 Frequency Response 2N FF

TIA-5050 (2018-01) \ Measurements \ Wideband



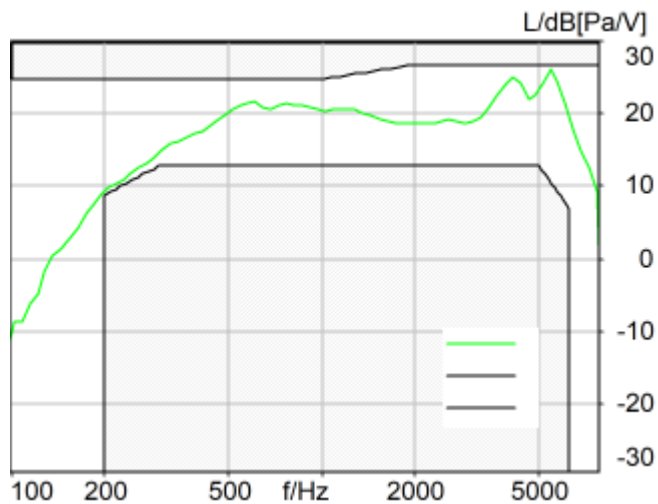
Absolute minimal distance
1.52 dB at 5443.6 Hz Ok

Ok

24/11/20 19:32 ACQUA 5.1.200

5.3 Frequency Response 2N DF

TIA-5050 (2018-01) \ Measurements \ Wideband



Absolute minimal distance
0.59 dB at 5443.6 Hz Ok

Ok

24/11/20 19:32 ACQUA 5.1.200